THE OIL WEEKLY

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The Oil Man's Calendar

MAY	
12	East Texas Chapter, American Petroleum Institute, Kilgore, Texas.
13-15	Natural Gasoline Association, Mayo Hotel, Tulsa.
	A.P.I. Mid-Year Meeting Canceled.
22	Kentucky Oil & Gas Association, Lexington, Kentucky.
JUNE	
6	American Petroleum Institute, Illinois Basin Chapter, Robinson, Illinois.
6	Illinois-Indiana Petroleum Association, Robinson, Illinois.
OCT.	
8-10	Texas Mid-Continent Oil & Gas Association, Dallas.
12	National Stripper Well Association, Wichita, Kansas.
13-15	Independent Petroleum Association of America, Wichita, Kansas.
NOV.	
9-13	American Petroleum Institute, Chicago.

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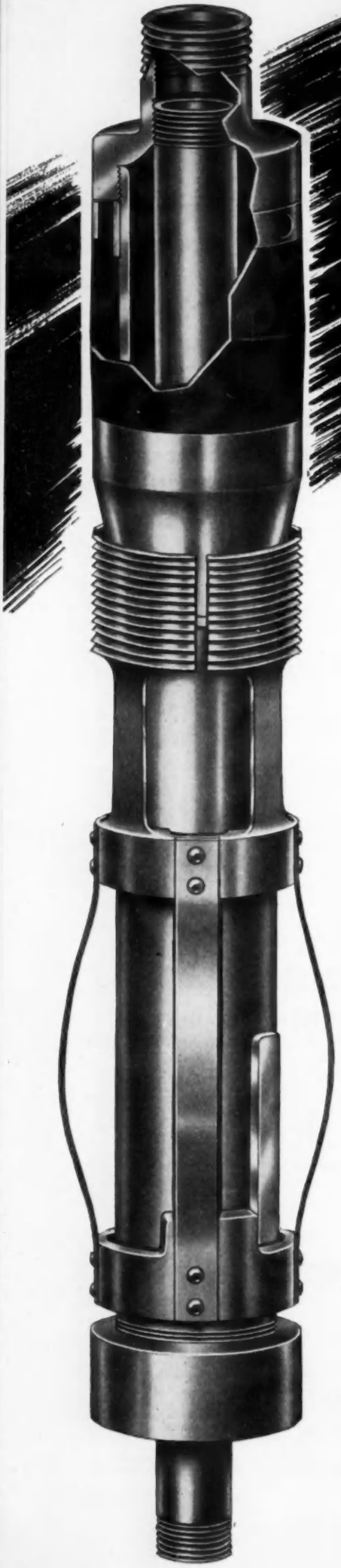

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The Changing Panorama

Better Understanding Imperative Need

ALTHOUGH the IPA at its Fort Worth meeting last week indicated that independent operators were not looking to Uncle Sam for financial aid in their time of trouble brought about by falling off of tanker shipments, but would like to have protection against bank foreclosures on oil loans, independents elsewhere were not completely in sympathy with the idea that the government should not aid with money.

THE OIL WEEKLY had a phone call during the week from a South Texas operator who was indignant that the oil industry should apparently be spurning the aid proffered through a bill introduced by Senator Tom Connally. This operator declared that the larger companies establish their loans on a long-term basis on the foundation of reserves. The independent, he said, on the contrary must seek short-term loans—and has sought and received such loans to the point where he now faces ruin. He did not seem to think that stoppage of foreclosure would be enough. He also seemed to be under the impression that while all oil companies were affected somewhat by the present situation, the majors would not be as seriously affected as the independents and maybe welcomed the chance to gobble up the independents properties.

We have observed an inclination during the past few weeks for the hard-hit independents to feel as though they were the only factors in the oil industry facing ruin. But an independent with 20 employes to pay should consider the plight of a major with 10,000 to 20,000 people on its payroll—and the government urging every money holder to put his funds into government bonds.

While the independent is taking it on the chin with as little as 12 days per month allowable in some instances, and faced with only 6, the majors are taking a whipping right along with the independents —plus the additional whipping brought about by heavy shipments of refined or crude oils from the Southwest to the East with every barrel calling for a heavy loss.

The truth of the matter is that the entire oil industry is in the same boat in this mess and the less recrimination the better. The public is somewhat inclined to believe the worst of any one or any industry and with one element of the oil industry crying "theft" and "banditry" there must be some in Washington who are laughing in their sleeves at how the industry is playing into their hands.

We have observed more than once that if the oil industry is to survive this war as an industry and not as a national utility, conflicting elements in the industry must work together as closely as possible. Today they have a common cause along many fronts. Harmony and not friction are not only desirable but imperative.

A better understanding by each element of the other element's problems would help a lot. Friendly discussion instead of recrimination is the sound way to the solution to the industry's problems. If there be problems which cannot be solved in this manner after a real effort, then is time enough for a cussing match.

Despite the pessimism expressed at the Fort Worth meeting of independents regarding the cessation of oil movements from the Southwest by tanker, we do not believe that this will be a permanent condition by any means. Our worst clouds have some silver linings.

• • • *Most popular subject of speculation is the amount of gasoline Eastern motorists will be allowed when the card rationing system goes into effect May 15. Early predictions of 2½ to 5 gallons have been fairly well discounted but authorities are keeping the exact amount secret. In the meantime gasoline rationing talk has spread to other areas as additional threats of tank-car and barge diversions are indicated to help relieve the Eastern situation.*

Additional Data on Reserves Suggested

A PLEA that secondary-recovery reserve estimates be included in crude-oil reserve figures and that these figures be compiled every six months together with estimates of possible production rates covering 3- and 5-year periods are interesting suggestions made in the following letter from Burdette Blue, president of the Kansas - Oklahoma Division, Mid-Continent Oil & Gas Association:

"The reserve estimates of your publication and those of the API and The Oil and Gas Journal practically coincide. Recently, as you know, the Petroleum Coordinator requested the states to supply him with their own estimates, and in addition, among other things, to state the amount of daily production that could be sustained for 3-year and 5-year periods. The aggregate of those individual state estimates will approximately be in line with the estimates made by the other sources mentioned. Generally speaking, none of these estimates include secondary-recovery reserves. However, the State of Oklahoma has included, and possibly the State of Illinois, and one or two other states have included, secondary-recovery reserves in their estimates.

"I am not certain I am right about this, but it is my understanding that with the exception of Louisiana (and there the law has been held unconstitutional in a lower court) that if secondary recovery is to be made possible appropriate and necessary legislation must be passed by all the remaining producing states. Therefore, if all future reserves estimates included this factor, I think encouragement and impetus would be given to the effort being made by some of us to secure the passage of the needed legislation. Regardless of that, unless secondary-recovery reserves are included, the estimates do not give us the correct reserve figures anyway.

"Another thing: The reports made by the states will, as I have said, include estimates of the daily rate of production that can be sustained for both 3- and 5-year periods. This is, of course, absolutely essential during a period of wartime economy and almost as much so in time of peace. We need know not only the amount of proven recoverable reserves but we also need to know the daily amount of them which may be produced without waste over advance periods of say, in time of peace, at least 6 months. Notwithstanding that the state forecasts will cover the 3- and 5-year periods, a re-examination of the situation about twice a year would be in order.

"I summarize my suggestion as follows:

"The estimates should be divided (1)

into primary and secondary-recovery reserves, and the total of those two estimates would represent the amount of proven recoverable reserves (2) each time these basic reserve estimates are made there should also be included estimates of the daily rate of production which can be, sustained for a 6-months period in advance — this, of course, without waste."

The suggestion that secondary-recovery figures be included in reserve figures does not seem to meet with universal approval at the hands of some with whom we have talked. In areas where secondary-recovery work is in progress, THE OIL WEEKLY does include secondary recovery in its reserve figures. But in areas where no special investigation has been made looking toward secondary-recovery work, such figures have not been included.

There are, of course, many fields in which secondary recovery will not be practical. In many others, secondary recovery will likely depend upon the economics of the situation. Thus an area might possibly have some secondary-recovery reserves but unless the price of oil went beyond a contemplated point, such oil would never be recovered. The difficulty of including such secondary-recovery figures before a survey is made in the field would be to push the reserve estimates still further into the field of conjecture—and they are in many instances already far into such realm.

On the other hand it must be recognized that if the reserve figures in a field take into consideration recovery only from flowing or pumping, and conditions are suitable for secondary-recovery work on a practical basis, such secondary recovery is a probability and reserves on it could well be included. This is especially true where cycling is practical.

In our future investigations into the reserve question THE OIL WEEKLY will take advantage of Mr. Blue's suggestion to the fullest practical extent.

It is not surprising that the reserve figures of THE OIL WEEKLY, The Oil & Gas Journal and The American Petroleum Institute should not be far apart. Sometimes information will vary as to the reserves of a field and one compiler will give preference to one source of information while another prefers still another source. But generally speaking the figures should not be materially far apart.

Of course the job of estimating the possible rate of recovery without undue waste, for a period of six succeeding months would be interesting, and valuable. It requires, however, a great deal of work.

In THE OIL WEEKLY of March 2 was published a chart compiled by the Office of the Petroleum Coordinator showing possible production not only for the following six months, but the possible production for the next few years under two sets of conditions. At the time we said of the figures revealed by the chart that they constituted one of the most valuable contributions made to petroleum information in many years.

The figures to be furnished by each state as to the possible production which can be sustained for the next three to five years will also be interesting. Coordinator's figures just referred to included estimates based upon no further drilling, and estimates based on drilling of present proven locations but including no new discoveries.

The royalty situation in many fields is such as to make it almost imperative that necessary legislation be enacted, although operators have gone ahead with secondary-recovery projects when considerably less than three fourths of the royalty interests had signed up. Proper legislation unquestionably would make it possible to add secondary-recovery reserves to the nation's total.

Getting the Most Oil With the Least Steel

THE primary purpose of oil conservation priority orders is to assist the industry in providing the greatest amount of oil with the expenditure of the least amount of steel. There can be no doubt but that reduction in drilling, due to 40-acre spacing, is reducing the quantity of steel consumed, but whether the greatest volume of oil procureable per ton of steel used is being obtained remains debatable.

The huge drop in Illinois production due to the sharp drilling decrease makes it more imperative than ever that pipe lines be built from Texas to supply the Atlantic Seaboard, and thus the steel saved through completion of fewer wells in that area will be consumed. A line from East Texas to Illinois will use 750 miles of pipe, which would case 1250 wells for 3000-foot depth.

Also there is the matter of wildcat drilling versus operations in proven territory. There are logical reasons for encouraging drilling of wildcat tests, but is this program going to conserve the use of vital steel to the fullest extent? Every successful wildcat completed requires expansion of pipe-line systems if its oil is to be helpful, and thereby much of the steel saved through 40-acre spacing is used.

Wildcatting is encouraged because of the need for enlarging reserves. But this has the disadvantage of requiring pipe line expansion and being very uncertain. The nation's proved reserves might be increased more successfully with the use of less steel by prospecting for new deeper horizons in many known fields. There would be fewer dry holes drilled, the chances of finding production being improved because the existence of structure already has been proven. Pipe lines necessary for handling the production also are already constructed. Yet before testing deeper zones it is necessary to obtain an exception to Conservation Order M-68, because drilling regulations are based on surface acres.

Although existing wells can be drilled deeper or plugged back to new horizons with the very smallest quantity of steel possible, it also is necessary to obtain exception permits to do this.

To prevent misuse it probably is necessary to base regulations upon surface acres, but filing of intentions to search for deeper zones on known structures should be encouraged and when filed these tests should receive the same priority rating as given to wildcat operations.

• • • *Any successful method of recovering dormant oil would add greatly to reserves and for this reason, owners of thousands of acres of shallow sand leases are watching the attempt to mine petroleum near Franklin, Pennsylvania, where an 8-foot concrete-lined 400-foot deep shaft is being sunk. A large working chamber will be excavated at the bottom of the shaft and horizontal wells, 2000 feet in length, will be drilled into the oil sand.*

WASHINGTON ROUNDUP

By B. F. LINZ
Washington Correspondent

Higher Gasoline and Fuel Oil Price Ceilings Granted

OPC to Ask WPB for Pipe Line Steel Once Again

Council Is Expected to Adopt Pipe Line Program

Need OPC Approval Before Old Wells Are Abandoned

PRICE-FIXING and rationing held the center of the stage in Washington last week, but rationing and pipe lines will be the outstanding subject during the current week as the Cole Oil Subcommittee initiates a study of the East Coast situation and the Industry War Council meets to pass on recommendations for pipe line construction.

The price-fixing order, imposing a ceiling on practically everything not previously under control, will make no immediate difference in the crude price situation although Price Administrator Leon Henderson followed his general regulation up with a separate order granting another slight increase in gasoline and fuel oil prices.

The rationing situation was the subject of considerable comment in and out of Congressional circles and a number of resolutions for investigations were introduced at the capitol. Moving apparently to head off any inquiry which might gum up the program, Chairman Lea of the House Interstate and Foreign Commerce Committee instructed the Cole Subcommittee to make a study, and Coordinator Ickes and Administrator Henderson were invited to appear May 4.

During the week, OPC, its name changed from "national defense" to "war," placed shackles on abandonments and ruled that permission to abandon wells must be secured from district offices.

Pipe Lines to Be Studied by Council

The May meeting of the Industry War Council will open May 5, with the engineering reports on the various phases of the pipe line program due to be submitted, discussed and probably passed on to Coordinator Ickes for action.

Ten pipe line projects estimated to cost some $200,000,000 and ranging from the pulling up of disused Gulf lines to the building of the twice-denied Texas-New York line, have been under study for the past month.

There are indications that the entire program, with some modifications, will be recommended for adoption. Such a recommendation likely would be immediately approved by OPC, which already is planning steps to put it into operation. The modifications are understood to include even greater resort to disused pipe than originally proposed.

OPC to Seek Steel For Pipe Line Again

OPC officials are expected to go before the War Production Board in the near future with another request for a priority on steel for pipe line construction. Currently, experts of the agency are working on the report which is to be submitted in support of the application, in which it will be shown that the possible use of every substitute for steel that could be thought of has been thoroughly canvassed.

Recently there has been some suggestion that the long-distance line might be constructed of concrete. That material, as well as others, has been exhaustively studied, but so far appears to offer little saving over steel because the reinforcing-steel requirements of pipe designed to withstand high pressure would approach those of plate for steel pipe.

Other factors militating against the use of this material, it is understood, are the fact that gaskets would have to be used for joints, with possibilities of leakage, and that high pressure pipe would have to be so heavy that construction costs would be excessive.

The industry has never made any very great use of concrete pipe and that principally for low pressure gathering or secondary lines where the corrosive nature of the soil or the product handled justified the increased expense.

Congress Studies Oil Transportation, Rationing

In the Senate on April 30, Senator Maybank of South Carolina introduced a resolution for an investigation of means by which the inland waterways may be more extensively used for oil transportation, and Senator Shipstead of Minnesota urged construction of wooden barges, declaring they could be built for $10,000 each and that a large towboat could handle ten barges at a rate of ten miles an hour.

Shipstead told the Senate that for more than a year he has been pressing a barge program upon OPC and the Maritime Commission unsuccessfully. He said the commission had been denied priorities on steel for the construction of barges, in the face of a showing that 34 of them could handle the maximum daily capacity of the proposed Texas-New York pipe line at a construction cost of $680,000 as against up to $100,000,000 for the line and at one half the transportation cost.

While there was considerable discussion of the oil situation in both Senate and House, definite action was taken first in the latter where Chairman Lea of the Interstate and Foreign Commerce Committee called a hearing of the Cole Oil Subcommittee for May 4, at which Ickes and Henderson or some representative of OPA, were invited to appear.

OPC Changes Name To Fit War Effort

It's the Office of Petroleum Coordinator for War now, Ickes announced April 30.

Set up on May 28, 1941, as the Office of Petroleum Coordinator for National Defense, the Ickes office has acquired a new name, with the approval of the President, as being "more appropriate to the situation existing today."

Although the last of the "national defense" agencies to change its name, OPC actually was the first to gird for war. Getting on to a war footing at the first meeting of the industry council two days after the Japanese attack at Pearl Harbor.

Temporary Florida Line Gaining Wide Support

Proposals of Senator Claude A. Pepper of Florida for a temporary pipe line across that state pending completion of a barge canal permitting the transportation of oil by the intracoastal waterways from the Gulf to the Atlantic northeast are gaining considerable support from members of the oil-producing states.

Representative Joseph J. Mansfield of Texas last week incorporated in the Congressional Record a letter from Olin Culberson, Texas Railroad Commissioner, a telegram from Col. Ernest O. Thompson, chairman of the commission, and a communication from the East Texas Oil Association, all urging increased use of the intracoastal waterways.

Culberson told Mansfield that the proposed pipe line could be built in 20 to 30 days with used pipe from other lines, while Thompson pointed out that "the oil that Texas is forced to shut in, at the present time amounting to more than 400,000 barrels per day, would shortly pay for the cost of completing the canal."

Submitting the views of the East Texas Oil Association, H. P. Nichols, executive vice president, declared that "as a war measure a pipe line from Texas to the Atlantic seaboard would be the safest, but the steel to build such a line is almost out of the question. Inland waterways solve the problem if an 80-mile pipe line is built across Florida. Wooden barges are

[*Continued on page 85*]

Industry's Materials and Supplies Included in Price Ceiling Order

Increases Allowed Gasoline and Fuel Oils on East Coast; Other Oil Prices Remain Unchanged

Prices of all heretofore uncontrolled materials and commodities used in all branches of the oil industry were brought under price ceilings April 28 in orders of OPA which will become effective May 11 as to manufacturers and wholesalers and a week later for retailers.

The over-all ceiling—making the maximum price allowable the highest price at which sales were made in March—will not, however, affect the previously announced ceilings of crude oil and refined products, but a supplemental order fixed the maximum for gasoline at all service stations throughout the country, with the exception of 17 East Coast states and the District of Columbia, at the highest price charged during March, effective May 18.

In an order issued April 29, to be effective immediately, OPA provided an increase of 0.4 cents per gallon on gasoline, 0.2 cents on diesel fuel, and on No. 2 fuel oil in the Washington area, and 25 cents per barrel on residual fuel oils in the East Coast area.

It was explained that this allowance is to bring the market into adjustment with transportation conditions.

All previously issued price orders, including those on oil, will be continued in effect until amended by OPA.

The over-all ceiling was the first definite step taken to put into effect a seven-point anti-inflation program laid before Congress by President Roosevelt on April 27.

On the eve of his general price-fixing order, Price Administrator Leon Henderson issued an interpretation of the petroleum price schedule holding that buyers of petroleum products for which maximum prices are fixed are entitled to the same cash discounts that they received on comparable purchases from the same sellers on October 15, 1941.

Henderson explained that if a discount of 1 percent for cash was in effect on October 15, last, on sales by a given refiner of gasoline to a given jobber, the price on sales of gasoline by that refiner to that jobber must be reduced by 1 percent for cash.

The administrator warned that he expects the industry to "cooperate" in maintaining these cash discounts, and advised purchasers who have been deprived of such concessions to inform OPA so that "appropriate steps may be taken to enforce compliance with the price schedule."

Possibilities that rationing of gasoline may be extended beyond the coastal area in the near future were raised by Deputy Coordinator Davies in response to an inquiry by Senator George of Georgia.

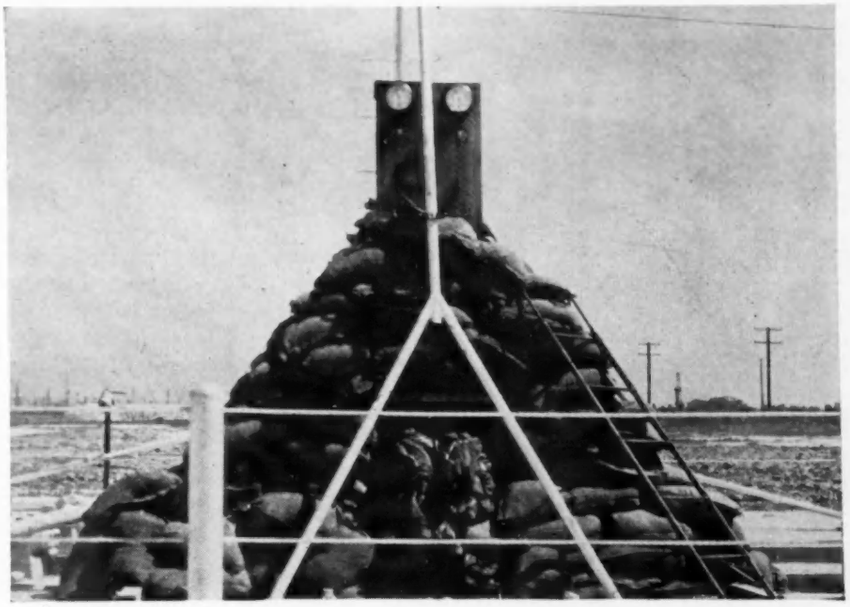
Davies said OPC is calling upon other sections, which have adequate supplies, to aid the East through the release of tank cars, barges and other facilities, and that this would eventually leave every part of the country short of gasoline.

Reduction in Use of Asphalt Recommended

Voluntary deferment by state and city authorities of the non-essential use of asphalt, asphaltic products and tar for street and highway construction in District 1 was asked by Coordinator Ickes April 28.

In a formal recommendation (No. 45) to federal, state and local officials in the shortage area, Deputy Coordinator Davies estimated that 100-percent cooperation would reduce asphalt consumption on the East Coast by 3,500,000 barrels a year, with a somewhat lesser saving in tar.

Davies explained that the recommendation was prompted by the necessity of diverting tank cars normally used to haul asphalt and tar to the more important job of transporting oil, with a consequent deficiency in facilities for the movement of road-building materials.



Sand Bags and Dirt Mounds Protect California Wells

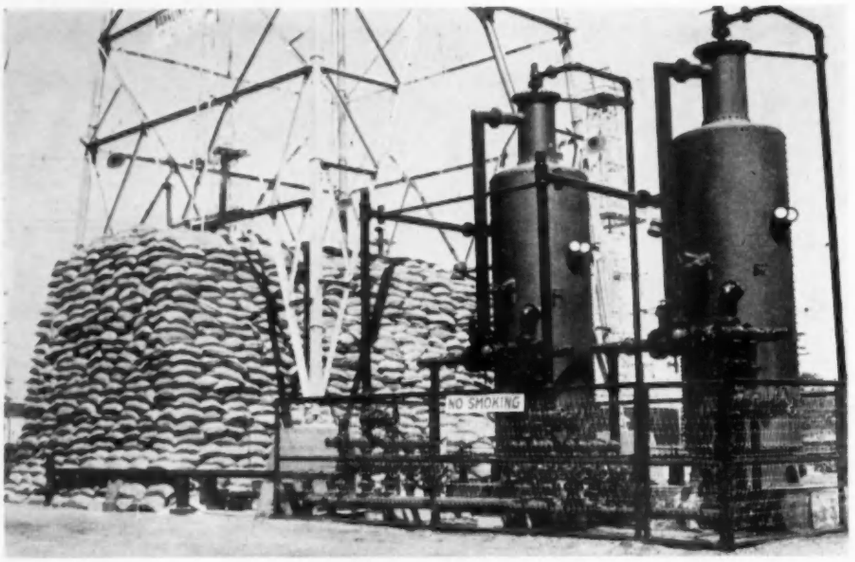
By JOHN C. ALBRIGHT

WARTIME protection of important oil field equipment and installations has been provided for the producing branch of the industry in California by the formation of a cooperative agency sponsored by the various companies in that area. This agency operates through a board of directors with a chairman for each locality to coordinate its efforts with the state and military in the matter of guards and blackout provisions. Chief concern of the industry is for high-pressure wells, flow tanks, tank farms, compressor stations and similar mechanical apparatus which might be damaged by saboteurs and aerial bombing. Although there are certain obvious recommendations with broad applications, neither the agency or other organizations place a restriction upon or cause any company to follow any set of rules for constructing protective devices. The type and design of the protective devices applying to individual well and tank batteries is left to the discretion of the operator and its development to the ingenuity and cleverness of the engineers. The protective equipment and appliances for flowing wells range from velocity check valves for down-the-well installation, to sand bag barricades and mounds of earth piled high around and over the Christmas trees.

Under present conditions and those which are anticipated, the chief desire of the producing companies and corollary agencies is for safety of the fields and contiguous areas. Perhaps the greatest hazard in the major oil fields is caused by aliens and a disgruntled and more or less moronic alien-type citizen who might attempt to destroy anything from a child's toy wagon to a battleship if an incentive was offered. Aerial bombing is a potential hazard, and this source of danger and that from the saboteur have been studied seriously and precautions have been taken to circumvent the saboteur and to prevent damage to well heads and Christmas trees by direct bomb hits and damage caused by fragments of aerial bombs and large pieces of anti-aircraft shells.

The most massive and perhaps the most effective individual well protection designed to defeat the destructive efforts of the saboteur can be credited to the mounds of machine-tamped earth placed over the Christmas trees of high-pressure wells. Not all producing companies consider the hazard great enough to justify covering the wells with mounds of tamped earth, and proceed to protect its property with bags of sand. The number of bags employed for individual well protection varies greatly, and range from a few bags stacked closely around the equipment to as many as 2500 bags stacked on supporting frames and reaching as high as the first derrick girt. The degree of protection offered by the mounds of earth is obvious, since several feet of earth must be removed before any of the Christmas tree controls can be reached. The saboteur will be required to employ picks and shovels to open one of these mounds, and the time involved will in itself be an important item.

Before building the mounds over the wells, each individual well is



Flowing well protected with approximately 2500 bags of sand to prevent damage by explosions and tampering by aliens. Separators painted to reduce visibility from the air.

checked to determine its producing characteristics, and information obtained with pressure bombs and temperature surveys. The fittings on the Christmas tree are given a thorough going over and are covered with paint, and all surface chokes adjusted to provide flowing volumes over a considerable time. The lead lines are changed to run for a considerable distance from the well and the light A frame for use when running bottom-hole pressures and formation temperature surveys is torn down so that nothing remains at the location but the Christmas tree and the necessary fittings above ground.

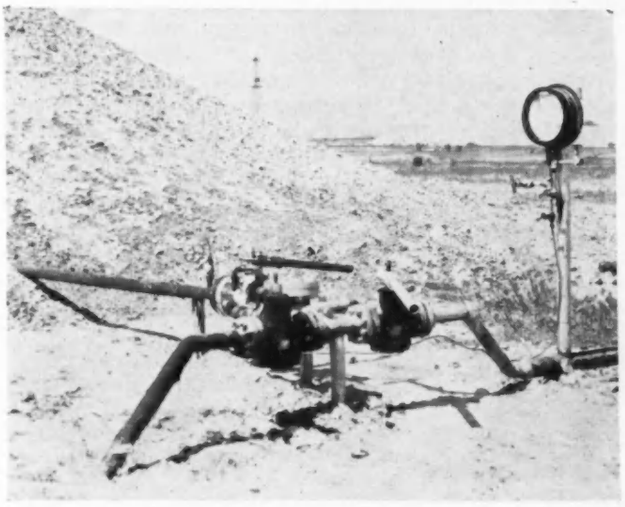
After the well has been placed in condition for actual burying, bulldozers and bullgraders are employed to scrape earth from the top of the ground immediately surrounding the well which is piled around the Christmas tree. The earth is tamped by the tracks of the tractors and when the Christmas tree has been covered with enough earth to support the machines, the bulldozers are run completely over the mound each time a load of dirt is brought to the well, which not only smooths the surface but packs the mass until its texture and composition resembles a sun-dried adobe brick. Damage to such wells by aerial bombing would require a direct hit on the apex. It follows that, since unauthorized individuals and groups are deterred from tampering with wells with this type of protection, legitimate operations are likewise difficult and require heavy specialized machinery, expertly operated to uncover the Christmas tree. Opening these mounds is considered as a remote operation, as each well is inspected thoroughly before covering to insure trouble-free flowing for many months. Supplementing this protection from the saboteur is a series of flood lights, one at each well, with the focus directed to the mound so that guards may distinguish moving objects in the circle of illumination.

End view of sand bagged well showing ventilation stacks at apex and master gate control stem at end of stacked bags.

Most operators are of the opinion that effective protection can be provided with bags of sand. The method employed when preparing a well for sand bagging depends somewhat upon the number of bags in the protection program. If only a relatively small number of bags is thought necessary, these are stacked loosely against the well head, on pumping wells, and sometimes stacked slightly higher at flowing wells without providing any type of supporting device. If the number is large, a timbered frame is built over the Christmas tree resembling a heavy rafter assembly. Toe plates are laid on the concrete pad surrounding the well to which the lower end of the substantial rafters, or supporting beams are spiked. Planking is then nailed to the rafters in the same manner that sheeting is applied on a building before shingles are laid for the roof. The planking not only assists in supporting the bags of

Small pile of sand bags covering tunnel opening through which workers pass to room under supporting structure. Note Christmas tree guy wire. Bags are treated with chemical to prevent mildew and rot, and have a greenish-gray color.

Large mound of tractor tamped earth placed over Christmas tree with bulldozers covering well head without supporting frame, and no provisions for entering.



Flow line from mound of rammed earth on flowing well with switching plug valves in the open. Chokes on Christmas tree are previously adjusted for allowable production so that if unprotected controls are broken, well will not flow wild.

sand but prevents loose sand from sifting into the open area immediately surrounding the well controls.

The bags used usually are burlap treated chemically to resist mildew and rot. Cotton bags are also used by a few of the operators since burlap is rapidly becoming difficult to obtain. Experiments are being made with kraft paper bags, employed for shipping cement, which if properly treated to resist moisture should prove satisfactory. The type of filler for the bags depends largely upon the material at hand, but since fine sand absorbs the shock of high explosives as well or better than most other substances it is commonly employed.

The sand bags are stacked symmetrically from a wide base on the concrete pad around the well head to a narrow truncated apex. Ventilation of the area beneath the bags of sand is provided by setting vent stacks, sometimes made of common stovepiping while others use line pipe, one at each end of the structure, so that gases and vitiated air can escape easily. A few operators place rain guard hoods over the top of the vents, but most are left open as they are installed. As an additional safety factor, guy wires are frequently attached to each corner of the structure leading to the derrick pier so that shocks resulting from bombs or other sources will not demolish the well protection.

When a Christmas tree is covered with a large number of sand bags, sufficient space is provided around the well head so that a worker can perform practically any surface operation required for controlling the well. If the chokes are attached to the arms of the Christmas tree to control multiple-zone production, adjustment can be accomplished in the normal manner without moving any part of the protective device. Entrance to the space around the well controls is usually through a full size door which in turn is covered by a varying number of sand bags stacked tightly against the shutter after it has been closed. A few wells protected by a large number of bags have an offset entrance closed by a door with a gabion or buttress

protecting the opening, which can be reached without moving loose bags forming a barricade. Practically all wells with high shut-in pressures have a master gate equipped with extension stems passing through the walls of sand bags fitted with adequate bars or wheels for ease when an emergency shut-in is required.

Not all of the high-pressure wells have such elaborate and massive protection to cover the Christmas trees and surface controls. Many producers are of the opinion that damage caused by a direct bomb hit is so remote that the economics of protection does not justify such an expense. These producers hold that damage caused by splinters from bombs and fragments of shells is more likely and have protected their wells with a much smaller number of bags. These smaller devices have a timber supporting frame similar to the larger installations with door openings closed by stacking only a few bags of sand in the aperture which can be removed with little effort and at a minimum expense.

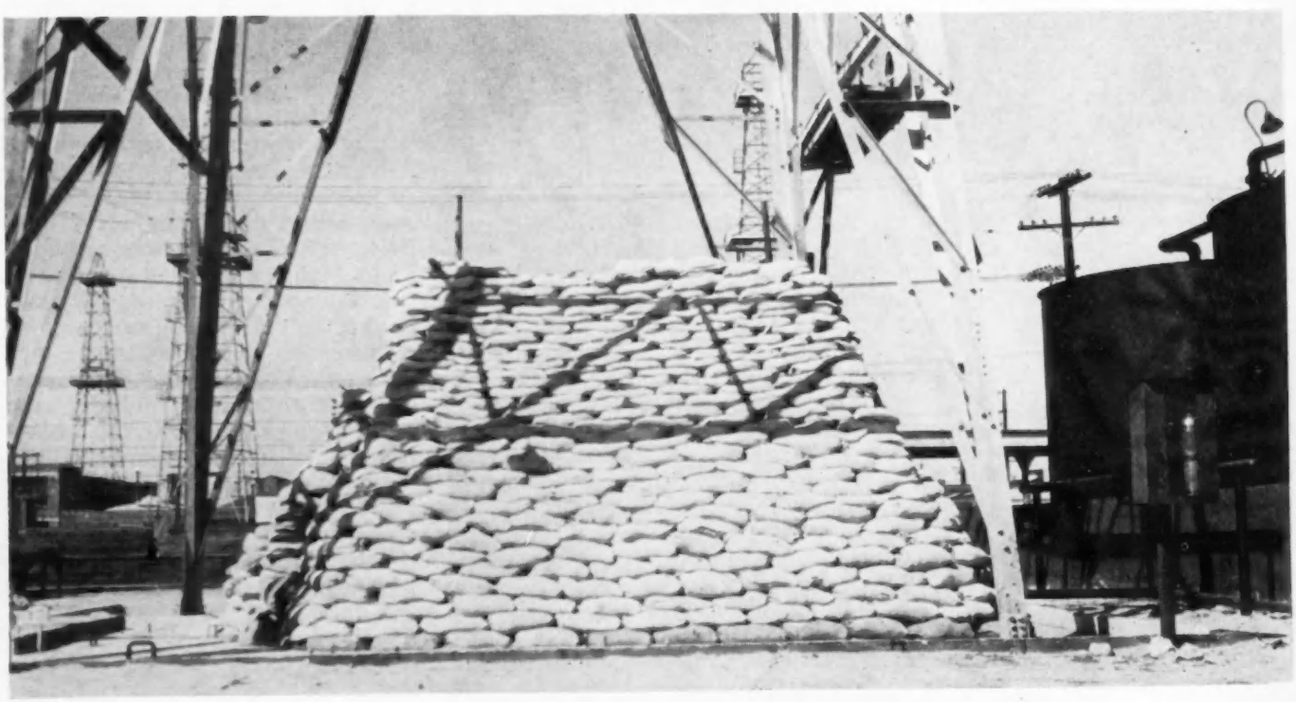
Protection of flow tanks in the field is obtained largely by adopting a painting program which requires that the former aluminum coating be covered with a color which readily blends into the surrounding objects, and the regulation army olive drab appears to stand out with less relief than any other color obtainable. The tank paint which has been applied most recently is compounded to resist photographing with infra-red film so that reconnaissance planes cannot take pictures which will show the location of such tanks. Cursory tests on tanks painted with the new color indicate that evaporation losses are little different from previous losses.

Compressor stations and buildings containing producing equipment have, for the most part, been left with the original paints but the windows have been blanked off, either with paint applied to the outside of the panes or closed with light-proof shutters made of light composition wall board. Early in the winter some of the buildings were blacked out by painting the inside of the panes of glass with an opaque coating, but this only intensified the reflection of extraneous illumination, such as flares and the like.

In fields where quantities of natural gas is produced from the formation, it has been the general practice to install short vent stacks near each well or separator battery to release excess gas to the air when back pressures on a gathering system exceeds the predetermined pressure on the pipe lines. This practice still holds good, but is being subjected to some modification and extensions. In congested areas where a release of any considerable volume of gas would be hazardous, the vent stacks are placed beside one of the legs of a nearby derrick, reaching to the fourble board so that any fires set off accidentally or on purpose will be high enough that a general conflagration will be prevented from this source.

Where several compressor stations are operating in the same general area, the several gathering systems are being inter-connected. At the most convenient point in the field where large lines of separate operating companies lie reasonably close to each other, jumper lines are laid which are brought together and equipped with hand controlled valves so that most of the gas handled by one system can be switched to another in case of emergency. These junctions are also equipped with large vent stacks so that the release of large quantities of unprocessed gas can be obtained at a point considered of small hazard to surrounding property.

The most effective and perhaps the most efficient protection any company can provide is through its personnel when dealing with subversive elements. It is difficult to put anything over on the average oil field worker. Therefore, when a company is fortunate in having a group of loyal men in the field, a saboteur runs the risk of having a pipe wrench bounced off his head without verbal preliminaries if he should act in the least suspicious around important equipment.



Smaller type of sand bag protection over Christmas tree with bag covered opening at end of stack. Flow tanks at extreme right are painted conventional army olive drab color.

West Texas-New Mexico

Permian Basin

Presents Largest and Most Prolific Proven Undrilled Oil Reserve in the United States

By H. H. KING and GILBERT M. WILSON, Staff Writers

THE Permian Basin, centering upon West Texas and Southeastern New Mexico, has a greater number of proven undrilled locations than any other geological province in the United States. This bi-state district has succeeded in maintaining a comfortable reserve of proven well-sites since the mid 20's and under normal conditions could maintain its volume of drilling for more than a year without uncovering new fields, or additional producing zones in established areas. Production restrictions now in effect in states with a greater oil yield than market demand and transportation facilities have been applied to some Permian Basin areas since 1927.

War conditions have resulted in a sharp curtailment of demand for Permian Basin oil due to the routing of its entire output to Coastal plants and tanker terminals, except local refineries and two carriers to the Middle West. The resultant curb on crude withdrawals has necessitated a cut in drilling, but the district ranks among the most active in the Southwest despite its market shrinkage.

Development has not been materially hindered by the enforcement of OPC's 40-acre well spacing, since this unit has been adhered to in Lea County, New Mexico, and many of the recently exploited fields in West Texas such as Seminole, Abell, Sand Hills Ordovician, Apco, Todd Deep, Barnhart and Wasson, except Bennett.

Cumulative oil production in the Permian Basin at the close of 1941 amounted to 1,499,351,000 barrels, with Texas accounting for 1,195,073,000 barrels. Known crude reserves exceed 3,000,000,000 barrels, of which Texas is credited with 2,564,831,000 barrels from 14,296 wells on 376,321 productive acres.

Production from the Lower Permian series and Ordovician beds have incalculable possibilities within the basin as revealed by deep discoveries in recent years. It is apparent that highs previously nonproductive in the regular Permian remain prospects until explored to the Ellenburger, deepest producing zone. This development has resulted in acquisition of a vast volume of leases the past two years in areas formerly considered eliminated, and deep exploratory tests will later be assigned to such prospects.

Ordovician production has been slow in attaining prominence other than at Big Lake, where production was uncovered December, 1928. Twenty-six deep wells at Big Lake have produced 28,059,097 barrels for an average recovery of 1,080,000 barrels per well and 14,600 barrels per acre. Performance of the Big Lake deep pay encouraged Ellenburger explorations without results until 1936 when the Sand Hills structure contributed small production from Simpson followed by prolific flow from Ellenburger within the Permian producing area. Ellenburger production at Sand Hills involves series of highs instead of a single area as is the case at Big Lake.

Pecos County is forging to the front with Ordovician production. The initial strike was made at Apco in 1939, and the following year the Abell field made its appearance to give the area its first important Simpson development. Three distinct zones produce from the Simpson at Abell, and small production also developed from Ellenburger. Heiner and Wentz, single-well pools, produce from Ellenburger, with the latter affording an unusually thick section of dry gas zone above the oil level. Pecos County's Ordovician areas are upon or adjacent to buried granite ridges with definite trends that will account for numerous additional discoveries in the northeast portion of the county.

The third largest Ellenburger area was uncovered September, 1941, on the Barnhart structure, Southeastern Reagan County, from 9100-foot dolomite, establishing producing depth record for the district. It centers upon University of Texas fee, and that portion of the discovery block requires development by June, 1943, on each tract. More than a score of wells will be drilled within the next 12 months in forestalling lease expirations and required offsets.

Crinoidal and Silurian limestone zones are new sources of production in the Basin. The former occurs on the Todd structure,

Crockett County, with a single-well pool 3½ miles to the west. An extensive lease buying campaign has been staged in the southeast portion of the basin on the supposition that Crinoidal and other Lower-Pennsylvanian zones may be productive, but exploratory work is pending. The Silurian, rarely encountered zone overlying Ordovician, has recorded two wells in the Shipley pool, Ward County. Oil from this 7000-foot pay congeals at 75 degrees, and because of difficulty in pumping development has been deferred.

Big producing areas without a break in the oil zone are common occurrence in both West Texas and Lea County, New Mexico. The Texas portion of the basin produces from levels ranging from 43 feet to 9100 feet, and has two fields that exceed 50,000 acres in continuous producing area.

Largest Wells at Yates

The prolific Yates shallow field has the largest flowing wells in the nation, and is the prize of the basin. It embraces 20,000 acres with production ranging from 830 to 1900 feet, and numerous wells exceed 100,000 barrels natural potential. Yates has produced 260,079,187 barrels from 572 wells, and its reserve from known pays is estimated at 407,944,000 barrels. Ninety percent of its wells still flow, although discovered in 1926.

The upper portion of the basin sector of West Texas has yielded the two largest producing areas within the state, except East Texas field. The Wasson field, centering upon Gaines-Yoakum County line, has 58,000 acres of producing area. It has produced 33,050,049 barrels since 1936 from 1311 wells, of which 95 percent flow natural, and crude reserve is placed at 414,950,000 barrels. The nearby Slaughter field, covering portions of Cochran, Hockley and Terry counties, is destined to become the largest in area, having 52,000 acres outlined by production without an inside failure. It will eventually expand materially along the north front, which is open to extensions for a width of 10 miles. When defined it will consist of between 60,000 and 75,000 acres. At the close of 1941 this field had produced 6,468,802 barrels from 849 wells, 97 percent flowing, and reserves estimated at 279,532,000 barrels. It was discovered in 1937. Slaughter was the most active drilling center in the nation during latter part of last year and retained its leadership during first quarter of 1942. Comparatively small crude yield is due to inadequate pipe line facilities.

Ector and Winkler Counties

Ector and Winkler counties are near the center of the two most important production trends that became apparent during the early stages of Permian development, thus facilitating discoveries. The former has produced more than 100,000,000 barrels, with reserves exceeding 600,000,000 barrels. Goldsmith field is the county's largest, having 21,580 producing acres that have accounted for 32,716,467 barrels from 958 wells, 95 percent flowing, with estimated crude reserve of 311,000,000 barrels. North Cowden field has produced 21,107,495 barrels from 506 wells on 19,600 acres, with crude reserve of 135,693,000 barrels. The Foster structure which incorporates South Cowden and Johnson sectors, and almost unites with the North Cowden field, has been more densely drilled although about equal in area. Foster has produced 16,641,624 barrels from 789 wells, with crude reserve of 109,978,000 barrels.

The McElroy field, involving the merger of Church & Fields, Gulf-McElroy and McClintic areas, has produced 122,200,000 barrels from 11,340 acres outlined by production, with reserve of 127,280,000 barrels. In excess of 200 wells are to be drilled under the wide spacing rules. The Church & Fields sector, embracing University of Texas fee on the north end of the structure, produced 56,623,287 barrels from 210 wells on 2900 acres for an average recovery of 269,634 barrels per well and 19,525 barrels per acre. Prospective producing acreage on University fee is estimated at 3920 acres, although it is doubtful if any appreciable drilling will occur in the future. Only 5 of the original oil completions on University fee have been depleted.

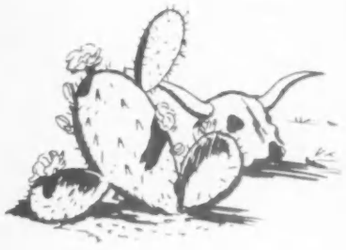
The 400-foot wide Landreth vacancy strip between University land and Gulf Oil Corporation's McElroy leasehold has produced 10,301,000 barrels from 16 producers on 113 acres, although five wells have been depleted. This lease falls within the Church & Fields sector. The unusual performance is largely due to well No. 11, completed August, 1927, in regular Permian at 2825-40 feet, flowing 8200 barrels natural, with a recovery of 97,721 barrels the first 18 days. This outstanding well has produced 6,750,000 barrels of the vacancy's output, and currently has rated potential of 4237 barrels. The Texas Company purchased the property from Landreth Production Corporation in June, 1928, while the big well was considered a freak.

Big Lage

Big Lake field, the first prolific oil strike in the basin (1923), has produced 68,246,167 barrels from 3280 acres in the Permian zones, and 28,059,097 barrels from Ordovician. The Permian accounted for 292 wells in the 2400- and 3000-foot zones, averaging 233,719 barrels per well and 20,807 barrels per acre. Output from the Permian during 1941 exceeded that of the previous year. This field has added a new Permian oil zone, consisting of prolific flow from the 4200-foot Clear Fork limestone, since the first of the year.

The Clear Fork series, involving lowest producing zone in the Permian, has made its entry as a source of production at intervals from Pecos County to Lubbock on the west side of the district. The original strike along this trend was on the Sand Hills structure, Crane County, where a major field prevails in this lower Permian section. The Abell and Conry-Davis pools, Pecos County, have Clear Fork production. The trend to the north was confirmed by a few scattered oil wells on the west flank of the North Cowden field. Two flowing producers from exceptionally thick sections of broken saturation have been completed in Gaines County sector of Wasson field, while Lubbock County's single producer is also a Clear Fork. This zone has more recently been uncovered for flowing production in the Fullerton pool, Andrews County, and near regular Permian failures.

New Mexico has a substantial share of the producing area within the Permian Basin, which embraces portions of Lea, Eddy and Chaves counties. The state has in excess of 500,000,000 barrels of known crude reserves, and produced 39,751,097 barrels during 1941, establishing new record on annual yield with an increase of 2.2 percent over the previous year. Cumulative production for the state totalled 311,890,320 barrels at close of 1941 with the Permian Basin sector accounting for 304,-



IT HAS been almost five years since *The Oil Weekly* has devoted an issue to the Permian Basin area of West Texas and Southeastern New Mexico. During this time nearly 100 new fields have been discovered, many others extended materially, some connected with adjacent fields, and something like 12,500 wells have been completed.

The territory's vast land area, large reserves and proven undrilled locations assures it continuing as an important oil region for many years. Consequently, this issue is devoted to the presentation of up-to-date data on development and production of West Texas-New Mexico fields, including reserves, proven acres, discovery means, number of wells, producing formation, production and other pertinent and valuable information.

These data are presented in two forms, tabular and condensed biographical style for each field. In addition, a two-color insert map shows the location of the fields.

278,014 barrels. Search for deeper zones in established fields has been deferred, especially in Eddy and Lea counties, where output has surpassed market and transportation facilities since the state attained prominence as a source of oil.

The Permian Basin sector is dependent upon the same purchasers and pipe lines as those that serve West Texas, except for limited market provided by refineries in Eddy County. Voluntary proration was adopted by operators in the Hobbs field in July, 1930, and similar restrictions were applied as other Lea County areas proceeded with developments. The state's annual output did not exceed 2,000,000 barrels until 1930 when the entry of pipe lines into Lea County made it possible to proceed with development of Hobbs, Jal and Eunice fields. Production has increased each year thereafter, except 1932 and 1938 when market restrictions forced curtailment.

Lea County has three distinct production trends, and large producing areas with remarkable flowing life prevail. Maljamar field, the oldest, involves continuation of series of fields to the east of the Artesia district, Eddy County, with Philmex, Corbin and Vacuum occurring further east along the same regional high. The most productive trend extends north from the Jal field via Cooper, Lynn, South Eunice, Eunice and Monument areas. The two Eunice sectors and Monument embrace a single structure, although subdivided for proration purposes, that has 43,160 acres on production with cumulative of 104,475,575 barrels from 1078 producers. Reserves for this structure are estimated at 257,844,000 barrels. Third outstanding trend involves a series of pools immediately east of the latter group with production coming from sandy-lime and limestone, extending north-south 40 miles. These produce high-gravity oil with considerable dry gas territory from Yates sand and Permian white lime. Oil recovery per acre will be considerably lower than the county's average. However, operations have been profitable as a whole due to unanimous observance of 40-acre spacing.

Hobbs field, first major oil development for the state, will pass the 100,000,000-barrel mark this year, having produced 97,876,942 barrels from 265 wells on 10,080 developed acres. It has averaged 9710 barrels per acre and 369,347 barrels per well since discovery in 1928. No oil wells have been abandoned, although 4 converted into gassers. Even though the majority of the wells have been on production for a decade, 89 percent flow natural. Outstanding results have been attained by the field's committee of engineers in controlling water encroachment and excessive gas-oil ratios. Substantial portion of the Hobbs structure is capable of producing natural flowing wells from the Bowers sand at 3100-3300 feet. The presence of this pay became known during the early stages of development through frequent blowouts and occasional drill-stem tests, with some wells flowing 100 barrels of 40-42 gravity oil hourly. Only one well, northwest outpost, completed in the Bowers sand, as it failed to make a producer in the regular Permian white lime. Operators propose to defer tapping the Bowers sand until the lime pay is virtually depleted, then wells will be perforated in the shallower zone, thus affording a secondary production stage.

Lea County has produced 280,965,450 barrels from 2944 oil wells, including those depleted and converted into gassers, from 122,080 acres, averaging 95,400 barrels per well and 2300 barrels per acre. Eighty-five percent of the oil wells on production at the close of 1941 were flowing natural. The county's reserves are estimated at 431,493,000 barrels.

Natural gas production in Lea County affords a substantial source of revenue for operators through sales to 7 natural gasoline plants and gas lines. During 1941, the latter provided market for 35,382,450,000 feet, while the plants processed 110,085,702,000 feet in recovering 2,103,552 barrels of gasoline, butane and propane. Residue gas from plants is returned to leases for fuel, gas-lift and repressuring operations.

Without new discoveries, Lea County's future development will be confined to routine expansion of numerous fields that have not been defined. Sufficient undrilled locations are available to maintain field work on a par with 1941 for several years. Exploration of potentially productive deeper horizons in the Lower Permian and below will not be undertaken in established fields until proration restrictions are alleviated.

West Texas Development, Production and Reserve Data by Fields

County and Field	Producing Formation Data: Discovery Date	Range of Depths	Penetration	Name and/or Age	Acres: Total	Acres: Developed	Total Producing Wells: Oil	Total Producing Wells: Gas	Crude Production Data: Jan. Daily Allow.	Cumulative Yield: To Date	Cumulative Yield: Per Well	Cumulative Yield: Per Acre	Estimated Reserve	Deepest Test: Depth	Deepest Test: Formation Reached	Gravity Range
Andrews:																
Andrews, W.	7-40	4250-4475	160	San Andres (Perm.)	120	120	3	...	40	9,184	3,055	.....	240,000	5902	L. Permian	35-37
Emma	3-37	4140-4500	60	San Andres (Perm.)	1,900	1,900	60	...	1,450	969,600	15,900	510	14,230,400	4436	Permian	34-36
Deep Rock (Ogden)	12-29	4340-4500	60	San Andres (Perm.)	800	280	10	...	150	854,605	.....	3,050	545,400	5088	Permian	26-32
Fuhrman	11-30	4200-4500	140	Perm.	2,000	1,660	54	...	1,330	2,898,120	53,600	1,740	7,062,000	4556	Permian	26-28
Fuhrman, W.	4-41	4250-4550	300	San Andres (Perm.)	40	40	1	...	55	5,791	5,790	145	234,200	5600	Permian	30-31
Fullerton	3-42	7222-7324	102	Clear Fork (Perm.)	40	40	1	...	.....	.....	.....	.....	320,000	8005	Clear Fork	43.1
Means	8-34	4325-4550	30	San Andres (Perm.)	6,940	5,380	122	...	3,980	5,330,000	.....	995	26,950,000	5227	Permian	28-30
Parker	12-34	4615-4760	120	San Andres (Perm.)	80	80	2	...	30	79,906	39,950	1,000	50,000	4806	Permian	32-33
Shafter Lake	12-38	2920-2950	30	Yates (Perm.)	40	40	...	1	Gas	Gas	.....	.....	Gas	4856	Permian	.....
Trip	3-38	4445-4526	81	San Andres (Perm.)	40	40	...	1	5	10,750	.....	270	10,000	....	.....	31-32
Andrews-Ector:																
Embar	2-41	4146-4312	70	San Andres (Prem.)	600	121	3	1	50	8,516	2,840	.....	240,000	8368	Ellenburger	34-36
Cochran:																
Dean	3-38	4907-5076	96	San Andres (Perm.)	1,000	120	2	...	40	78,789	39,395	655	400,000	6621	Clear Fork	30-31
Duggan Area	10-36	.....	....	San Andres (Perm.)						Now Slaughter						
Rhodes	3-41	5093-5114	21	San Andres (Perm.)	40	40	1	...	30	2,566	2,560	640	7,500	5150	Permian	28
Concho:																
Wilson	12-41	3754-3765	11	Basal Penn.	40	40	1	...	5	500	.....	.....	.....	4102	Pennsyl.	45
Crane:																
Dune	5-38	3150-3380	110	Perm.	1,600	1,000	27	...	580	437,069	.....	435	4,363,000	3795	Permian	32-36
Ella Waddell	6-40	3220-3400	180	Perm.	200	160	4	...	95	30,750	7,700	190	470,000	4053	Permian	32-35
Jones	11-41	5725-5740	15	L. Simpson	40	40	1	...	15	1,428	1,425	.....	50,000	6146	Ellenburger	42.3
McKnight	6-35	3535-3650	65	Perm.	120	120	3	...	15	73,448	24,380	610	26,500	7614	Ellenburger	29-30
Sand Hills	6-31	4220-4700	137	Clear Fork (Perm.)	6,000	6,000	122	2	3,900	2,939,000	24,100	490	57,061,000	7158	Granite	34-37
Sand Hills (Ord.)	2-36	5620-6300	25	Simpson & Ellen.	1,200	1,200	27	...	990	577,900	21,400	480	13,822,000	7158	Granite	32-39
Taylor-Hughes	2-26	2000-2500	....	Perm.	.....	.....	...	...	Incl.	with McCamey		.....	.....	....	Permian	24-30
Waddell (was Gulf-Waddell)	8-27	3480-3650	23	Perm.	2,000	1,540	80	...	1,560	3,649,657	.....	2,370	7,130,000	3720	Permian	33-35
Crane-Ector:																
Jordan	2-37	3590-3750	149	Perm.	4,800	4,300	220	...	4,500	4,490,263	.....	1,045	25,610,000	3750	Permian	33-35
Crane-Upton:																
Church & Fields	4-26	2780-3150	77	Perm.	.....	.....	...	...	.....	Incl. with McElroy			.....	12786	Ellenburger	30-32
Cowden-Crane	5-26	2200-2650	62	Perm.	2,600	2,200	101	...	520	2,569,525	.....	1,170	4,030,000	3407	Permian	28-30
McElroy (Includes Church-Fields; Gulf-McElroy and McClintic)	7-26	2650-3170	154	Perm.	13,000	11,340	582	...	14,990	122,200,000	.....	10,800	127,280,000	12786	Ellenburger	30-32
Crockett:																
Bean	2-41	1451-1456	4	Perm.	40	40	1	...	15	3,500	3,500	.....	10,000	7948	Ellenburger	26
Clara Couch	9-41	1905-2181	60	Perm.	80	80	2	...	30	2,346	1,170	.....	240,000	4368	Permian	25-26
Crockett	4-38	1350-1500	50	Perm.	1,200	1,060	28	...	270	271,412	.....	255	2,131,000	1850	Permian	26-31
Hoover	5-38	1417-1440	20	Perm.	40	40	2	...	35	2,709	.....	.....	47,300	5810	Permian	27-28
Live Oak	7-40	2010-2150	40	Perm.	40	40	1	...	5	2,180	.....	.....	10,000	....	.....	30
Olson	6-40	2160-2371	211	Perm.	40	40	1	...	20	5,395	5,395	135	25,000	....	.....	27-28
Noelke (Soma-Noelke)	4-40	992-1825	28	Yates (Perm.)	1,600	1,200	25	...	450	111,028	4,445	.....	5,889,000	6977	Ellenburger	34-36
Shannon	10-27	1664-1680	16	Perm.	.....	.....	...	abd.	.....	.....	.....	.....	.....	....	Permian	....
Simpson (was Hoover)	1-33	1930-2105	30	Perm.	100	100	1	...	15	5,097	5,095	.....	4,100	6160	Permian	27-28
Todd	4-26	1680-1700	....	Perm.	10	10	...	...	.....	.....	.....	.....	.....	2102	Permian	.....
Todd (deep)	4-40	5565-6082	79	Crinoidal (Penn.)	640	480	12	...	400	129,731	10,750	270	5,630,000	7010	Ellenburger	40-41
Todd, W. (deep)	9-41	6428-6449	....	Crinoidal (Penn.)	40	40	1	...	30	3,100	3,100	.....	47,000	7143	Ellenburger	37.8
World-Powell	6-25	2450-2690	15	Perm.	2,400	1,900	65	...	1,650	7,270,481	.....	3,820	3,000,000	....	Permian	28-31
Wyatt (was Todd)	1-33	1369-1542	1 to 16	San Andres (Perm.)	160	160	1	...	20	27,937	27,935	170	70,000	8041	Ellenburger	21-22
Dawson:																
Scanlon	9-37	4836-4932	96	San Andres (Perm.)	40	40	abd.	...	.....	1,200	.....	.....	.....	....	Permian	35
Welch (was Albaugh)	11-36	4920-5000	80	Perm.	80	80	1	...	30	690	.....	.....	.....	5038	Permian	33
Ector:																
Cowden, N.	9-30	3985-4850	185	San Andres (Perm.)	21,400	19,600	506	...	15,800	21,107,495	.....	1,080	135,693,000	7000	Clear Fork	29-36
Cowden, N. (deep)	6-39	.....	20	Holt (L. M. Perm.)	240	240	5	...	125	90,000	15,000	375	510,000	7000	Clear Fork	37-38
Cowden, S.	1-33	.....	....	.....	.....	.....	...	...	Incl.	with Foster	.....	.....	.....	5575	Clear Fork	.....
Dour	12-40	4310-4362	52	San Andres (Perm.)	40	40	1	...	Idle	555	.....	.....	.....	4502	Permian	29-30
Foster (Incl. Johnson and Cowden, S)	12-35	4000-4400	160	San Andres (Perm.)	21,000	19,480	789	...	18,800	16,641,624	.....	855	109,978,000	5575	Clear Fork	33-35
Goldsmith	6-35	4060-4300	85	Perm.	24,320	21,580	958	2	24,000	32,716,467	.....	1,520	311,000,000	4455	Permian	36-38
Goldsmith, N. (Cummins)	7-34	4220-4500	200	Perm.	600	400	10	1	150	64,080	6,400	160	1,936,000	6431	Clear Fork	32-36
Harper	10-33	4000-4300	175	Perm.	4,000	3,600	184	...	2,700	7,320,068	.....	2,030	14,280,000	4518	San Andres	35-37
Johnson	12-34	.....	....	.....	.....	.....	...	...	Incl.	with Foster	.....	.....	.....	5575	Clear Fork	.....
Midway	2-42	4210-4353	143	San Andres (Perm.)	40	40	1	...	.....	.....	.....	.....	20,000	5308	Clear Fork	33
Penwell (Judkins)	1-27	3280-3818	134	Perm.	5,000	4,600	173	1	4,400	22,445,881	126,000	4,880	14,354,000	4102	Permian	34-36
Gaines:																
Cedar Lake	9-39	4550-4830	160	San Andres (Perm.)	1,720	1,500	33	...	1,050	256,365	7,780	170	7,244,000	5100	Permian	33-34
Kirk	10-36	4703-4850	147	San Andres (Perm.)	40	40	1	...	Idle	1,000	1,000	.....	.....	5038	Permian	26-28
Seminole	12-36	5010-5380	144	Perm.	12,600	12,000	284	...	9,050	3,926,323	13,800	325	128,074,000	5491	Permian	33-35
Wasson (deep)	12-40	6210-7433	525	Clear Fork (Penn.)	160	160	2	...	150	29,850	14,925	185	1,570,150	11108	Ellenburger	32-34
Gaines-Yoakum:																
Wasson	6-37	4780-7433	182	Perm. (3 zones)	58,000	56,000	1311	...	40,700	33,050,049	25,150	590	415,020,000	11108	Ellenburger	32-34
Garza:																
Justiceburg	6-26	2505-2573	31	Perm.	80	80	2	...	20	} 104,535	.....	435	95,000	{4801	Permian	38
Post	7-35	2705-2936	126	Perm.	160	160	2	...	25					{3007	Permian	35-36
Swenson	12-38	7327-7334	7	Basal Penn.	40	40	abd.	...	.....	1,321	.....	.....	.....	8104	Granite	36-37
Glasscock:																
Carter	9-36	2632-2668	36	Perm.	80	80	1	...	15	28,980	.....	360	11,000	3002	Permian	29-32
World-McDowell	5-29	2340-2430	50	Perm.	100	100	3	...	Prod.	Data Incl. with "Howard-Glasscock Dist."				10906	Ellenburger	26-28
Glasscock-Howard:																
Settles (shallow)	3-27	1201-1315	36	Perm.	370	370	37	...	225	1,448,135	39,150	3,920	552,000	3504	Permian	33-34
Hockley-Cochran-Terry:																
Slaughter	4-37	4845-5120	70	San Andres (Perm.)	60,000	52,000	849	...	25,600	6,468,802	7,600	125	279,532,000	6000	Clear Fork	31-33
Howard-Glasscock District:	.....	.....	...	.....	.....	10,800	787	...	.....	96,570,310	.....	8,950	54,930,000	10,906	Ellenburger	.....
Chalk	4-26	1545-1915	23	Perm.	Production Data Included under "Howard-Glasscock District"									.....	Permian	30-32
Clay-Hyer	11-25	1750-1900	21	Yates (Perm.)	Production Data Included under "Howard-Glasscock District"									3605	Permian	31-34
Hyman	6-29	1290-1325	10	Yates (Perm.)	Production Data Included under "Howard-Glasscock District"									3605	Permian	31-32
Roberts	10-27	1325-3110	15	Perm. (3 zones)	Production Data Included under "Howard-Glasscock District"									....	Permian	27-28
Settles-Henshaw	8-28	2060-2540	57	Perm.	Production Data Included under "Howard-Glasscock District"									....	Permian	32-33
Howard:																
Moore (was Harding)	6-27	3170-3250	70	Perm.	600	240	6	...	45	78,258	13,040	325	47,000	3590	Permian	27-28
Snyder (was O'Daniel)	5-26	2560-2900	200	Prem.	1,500	1,140	97	...	950	2,052,760	.....	1,800	2,507,000	3750	Permian	30-31

[Continued]

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FROM AN ORIGINAL DRAWING BY ORISON MACPHERSON

BLAST FURNACE MEN SPEED IRON PRODUCTION FOR MORE FIGHTING STEELS

With the precision of a gun crew in action, a team of skilled men jumps to the task of replacing a burned-out tuyere in their blast furnace. Tools, parts and materials always ready, they snap into action. In a matter of minutes the job is done. The blower opens the wind valve. With a rush and roar the hot blast is on again. Iron for war steel keeps on smelting.

It is this work-coordination of men and management that sets today's record-breaking production pace at J&L.

No waste motions here, no wasted minutes, for these men at the blast furnaces and throughout the works are determined that fighting steels and more fighting steels shall be made *today*.

JONES & LAUGHLIN STEEL CORPORATION

AMERICAN IRON AND STEEL WORKS • PITTSBURGH, PENNSYLVANIA

PARTNER TO INDUSTRY IN WAR PRODUCTION

J&L STEEL

West Texas Development Production and Reserve Data by Fields—Continued

County and Field	Producing Formation Data: Discovery Date	Range of Depths	Penetration	Name and/or Age	Acres: Total	Acres: Developed	Total Producing Wells: Oil	Total Producing Wells: Gas	Crude Production Data: Jan. Daily Allow.	Cumulative Yield: To Date	Cumulative Yield: Per Well	Cumulative Yield: Per Acre	Estimated Reserve	Deepest Test: Depth	Deepest Test: Formation Reached	Gravity Range
Irion:																
Mertson	7-28	1340-1475	5	Perm.	300	300	4	...	10	152,700	38,200	510	15,000	3511	Permian	37-38
Loving:																
Mason	1-37	3880-3991	46	Delaware	240	240	9	...	190	437,500	48,550	1,820	312,500	4165	Delaware	40-41
Wheat	9-25	4160-4390	26	Delaware	4,000	3600	88	...	1100	8,590,000	.....	2,380	3,410,000	5078	Delaware	38-39
Lubbock:																
Lubbock	10-41	4870-5002	132	Clear Fork (Perm.)	40	40	1	...	50	1,504	1500	.....	.....	5510	Clear Fork	28
Menard:																
Callan	12-29	1250-1270	20	Penn.	40	40	...	1	.....	.....	.....	.....	.....	2207	Pennsylvania	.....
Mitchell:																
Westbrook	10-20	2440-3100	60	Clear Fork (Perm.)	3,000	1700	87	...	500	11,032,000	127,000	6,500	1,168,000	5305	Permian	24-26
Mitchell-Howard:																
Iatan-E. Howard	8-25	2450-2900	200	Perm.	6,400	3900	291	...	4,300	13,244,115	.....	3,400	20,156,000	4154	Permian	29-30
Pecos:																
Abell	10-40	3350-5934	....	Perm.-Ord. (5 zones)	2,800	2,000	47	3	1,800	196,935	4,190	....	14,003,000	6338	Ellenburger	40-44
Apco	4-39	4488-4793	71	Ellenburger (Ord.)	900	440	11	...	450	160,397	14,600	365	13,040,000	5356	Ellenburger	39-42
Byrne-Messinger	1-27	1120-1380	30	Perm.	600	600	...	...	Incl. Un	der Pecos Va	lley (Low	Grav.)	.....	6010	Simpson	33-38
Chancellor	3-42	5082-5274	30	Delaware	40	40	1	...	.....	.....	.....	.....	100,000	6001	Delaware	37.5
Conry-Davis (Abell Perm.)	7-41	2250-3960	37 58	San Andres (Shallow) Clear Fork (Deep)	240	240	7	...	120	14,342	2,050	595	1,200,000	5745	Granite	32-37
Downs	9-41	1412-1506	96	Perm.	40	40	...	1	.....	.....	.....	.....	.....	6473	Detrital	.....
Fromme	6-39	1390-1640	23	Perm. (2 zones)	200	160	10	...	180	72,002	.....	450	568,000	5356	Ellenburger	29-31
Grassroots	12-39	43-70	37	Perm.	40	40	3	...	Idle	370	.....	.....	Unimport.	1686	Permian	12
Heiner	3-41	5382-5509	127	Ellen. (Ord.)	40	40	1	...	10	3,030	3,010	.....	25,000	5665	Ellenburger	35-36
Jamison-Pollard Pecos Valley Deep	9-40	2037-2041	4	Perm.	40	40	1	...	75	21,200	21,200	530	98,800	2280	Permian	24.4
Lehn	6-39	1640-1758	37	Perm.	740	740	48	...	500	291,500	6,180	395	3,408,500	2095	Permian	32-34
Netterville	9-34	2085-2360	105	Perm.	200	200	20	...	90	368,427	.....	1,840	132,000	2566	Permian	33-35
O'Neil	11-40	1607-1698	64	Perm.	40	40	2	...	Included	with Lehn	.....	.....	.....	2005	Permian	34
Masterson	12-29	1175-1490	49	Perm.	560	560	24	...	180	942,700	.....	1,690	737,300	5356	Ellenburger	35-36
Pecos Valley (Low Gravity)	11-28	1500-1690	62	Perm.	2700	2700	77	...	600	1,633,311	.....	605	3,767,000	2550	Permian	25-29
Richards (Courtney-Prior)	6-29	1345-1367	22	Perm.	80	80	2	...	Idle	29,705	.....	370	Dormant	4376	Permian	23-34
Rowan-Tong	8-29	1600-1611	11	Perm.	40	40	(1)	...	.....	2,000	2,000	.....	U. zone abd.	Now	Deepening	28-29
Shearer	7-38	1390-1507	30	Perm.	350	350	47	...	660	1,030,907	.....	2,945	369,000	5356	Ellenburger	34-36
Taylor-Link	6-29	950-1780	40	Perm. (3 zones)	2,500	1,750	109	...	2,350	7,093,720	52,900	4,045	4,900,000	2186	Permian	29-33
Tobarg	8-29	320-600	32	Cret.	1,400	1,400	252	...	1,200	6,976,571	.....	.....	3,024,000	1400	Permian	19-21
Walker	4-40	1925-2120	22	Perm.	1,300	840	40	...	850	164,991	4,125	196	2,355,000	4280	Permian	32-33
Wentz	12-41	4146-4447	....	Ellen. (Ord.)	40	40	1	...	50	1,600	1,600	.....	100,000	4538	Granite	33-34
Westerman	2-38	2820-2945	125	Perm.	40	40	...	1	.....	.....	.....	.....	.....	3278	Permian	.....
White-Baker	12-34	1650-1750	35	Perm.	1,100	480	18	4	300	172,136	.....	360	1,748,000	9811	Ellenburger	30-32
Yates (South)	2-27	1268-1273	5	Perm.	40	40	Abd.	...	.....	2,157	.....	.....	.....	1740	Permian	29-30
Pecos-Crockett:																
Yates	10-26	830-1900	136	Yates (Perm.)	20,000	19,200	572	...	15,700	260,079,187	455,000	13,550	407,944,000	(6977)	Ellenburger	28-30
Pecos-Ward:																
Payton	12-37	1920-2150	63	Yates (Perm.)	1,100	1,100	128	...	1,100	2,538,653	.....	2,300	2,411,000	3198	Permian	32-37
Pecos Valley (High Grav.)	4-39	1730-1913	49	Perm.	1,000	1,000	101	...	800	523,723	.....	520	3,476,000	2276	Permian	36-39
Reagan:																
Barnhart	9-41	9010-9155	50	Ellen. (Ord.)	160	80	2	...	215	14,350	7,175	180	800,000	9294	Ellenburger	44-45
Big Lake	5-23	2430-4381	23	Perm. (3 zones)	3,280	3,280	190	...	3,200	68,246,167	230,400	20,800	7,750,000	9562	L. Ellen.	35-39
Big Lake (Deep)	12-28	8125-8850	100	Ellen. (Ord.)	1,920	1,220	16	...	1,300	28,059,097	669,000	23,000	3,000,000	9562	L. Ellen.	42-58
Grayson (Skelly-Utah)	2-28	3051-3153	14	Perm.	320	320	4	...	50	630,531	157,600	1,970	100,000	9967	Mississipian	30-32
Reeves:																
Anthony	4-39	1618-1630	12	U. Cashle (Perm.)	40	40	1	...	3	2,150	2,150	540	.....	4100	Delaware	30
Tunstill	10-38	3290-3305	15	.....	40	40	...	Abd.	.....	.....	.....	.....	.....	3590	Delaware	.....
Runnells:																
Beddo	8-38	2310-3515	26	Penn. (2 zones)	80	80	4	...	100	51,684	12,920	645	48,000	3732	Canyon	43-45
Huddleston	6-40	3357-3570	8	Penn. (2 zones)	40	40	2	...	15	14,577	7,290	365	5,500	3624	Canyon	44
McMillan	8-27	2485-3568	34	Penn. (2 zones)	350	350	2	...	6	956,946	478,470	2,730	10,000	3568	Canyon	43-47
Schleicher:																
Opp	9-39	4049-4081	32	Cisco (Penn.)	40	40	Idle	...	.....	3,150	3,150	.....	.....	6155	Penn.	34
Page (Gas)	10-35	5380-5540	80	Penn.	560	400	...	4	.....	.....	.....	.....	.....	6257	Ellenburger	.....
Page (Oil)	6-39	5727-5746	19	Penn.	40	40	1	...	25	32,944	32,945	820	167,000	6257	Ellenburger	.....
Scurry:																
Sharon Ridge	1-38	2195-2500	180	Perm.	2,080	1,380	160	...	2,000	929,051	5,800	335	8,791,000	4290	Permian	29-33
Scurry-Mitchell:																
Northwest	6-23	1530-1850	100	Perm.	1,400	1,400	...	...	.....	(Included wi	th Sharo	n Ridge	figures above)	3576	Permian	29-32
Terrell:																
Goode	4-31	5606-5612	....	Penn.	40	40	...	1	.....	.....	.....	.....	.....	9140	Penn.	.....
Tom Green:																
Funk	5-40	1121-1129	....	Perm.	40	40	1	...	Idle	300	.....	.....	.....	1562	Permian	33
Upton:																
Herrington	5-37	2815-2896	60	Perm.	80	80	2	...	35	50,839	25,420	635	49,000	2963	Permian	24-27
Hurdle	6-36	2030-2100	40	Perm.	240	240	13	...	40	217,150	12,800	910	83,000	3085	Permian	24-27
Owens	11-40	2800-2822	....	Perm.	40	40	1	...	Abd.	.....	.....	.....	.....	2827	Permian	.....
Web-Ray	11-35	2050-2100	20	Perm.	160	160	2	...	15	51,646	5,165	320	23,400	3212	Permian	26-27
Upton-Crane:																
McCamey	9-25	1910-2800	64	Perm.	18,000	15,200	858	...	9,500	53,426,106	.....	3,515	22,574,000	3596	Permian	26-30
Ward:																
Byrd	3-42	2637-2679	42	Perm.	40	40	1	...	.....	.....	.....	.....	20,000	2880	Permian	30
Darby	3-42	2825-2847	22	Perm.	40	40	...	...	.....	.....	.....	.....	200,000	....	Permian	20.8
Dobbs	1-36	2550-2563	13	Perm.	40	40	1	...	5	17,945	8,970	450	2,100	3685	Permian	37
Estes	7-33	2410-2700	159	Perm. (2 zones)	4,200	3,800	349	4	5,600	12,529,095	36,350	3,300	33,071,000	3096	Permian	33-36
Grand Falls (Now So. Ward)	10-29	2150-2500	....	Perm.	Included	under S	outh	Ward								34-35
Kugle	2-31	2400-2680	120	Perm.	Included	under S	outh	Ward		Well and Pro	d. incl. u	nder So.	Ward	3118	Permian	28-29
Magnolia-Sealy	11-30	2740-3075	45	Perm. (2 zones)	600	600	54	...	970	784,000	14,530	1,310	4,016,000	3166	Permian	.....
Magnolia-Sealy, S.	5-40	2890-2940	4	Perm.	480	480	14	2	350	85,375	6,100	180	2,315,000	3578	Permian	28-30
Monroe	11-31	4663-4673	10	Delaware	320	80	1	...	25	80,000	80,000	1,000	20,000	4710	Delaware	32
Prairie-Sealy	2-29	2526-2575	49	Perm.	40	40	...	2	.....	.....	.....	.....	.....	3505	Permian	.....
Quito	5-40	5041-5088	47	Delaware	40	40	...	1	.....	2,450	2,450	.....	.....	5397	Delaware	42
Shipley	11-28	2390-3070	100	Perm.	2,000	1,600	120	...	1,700	3,721,580	.....	2,325	5,878,000	9187	Ellenburger	35-36
Shipley (Silurian)	12-40	7010-7060	50	Silurian	80	80	2	...	55	23,350	11,675	290	475,000	9187	Ellenburger	32-33
Spencer	6-41	2920-2950	30	Perm.	160	160	4	...	120	6,550	1,640	40	1,280,000	2990	Permian	28-29
Ward, S. (Bennett)	10-29	2123-2630	171	Yates (Perm.)	11,400	9,800	582	...	3,250	27,573,564	.....	2,820	16,526,000	3685	Permian	33-37
Ward-Winkler:																
Ward, N. (Gulf-O'Brien)	4-29	2425-2800	193	Perm.	8,500	6,600	414	2	7,850	22,467,913	.....	3,400	30,332,000	3450	Permian	32-35
	.....	2900-3225	124	Perm.	.....	Incl.	with	above	data	.....	.....	.....	.....	....	.....	.....
Winkler:																
Bashara (Now Keystone-Colby)	1-30	2470-3275	218	Perm. (Gas & Oil)	.....	.....	...	...	Included	with Keysto	ne-Colby		.....	8445	Devonian	32-36

[Continued]

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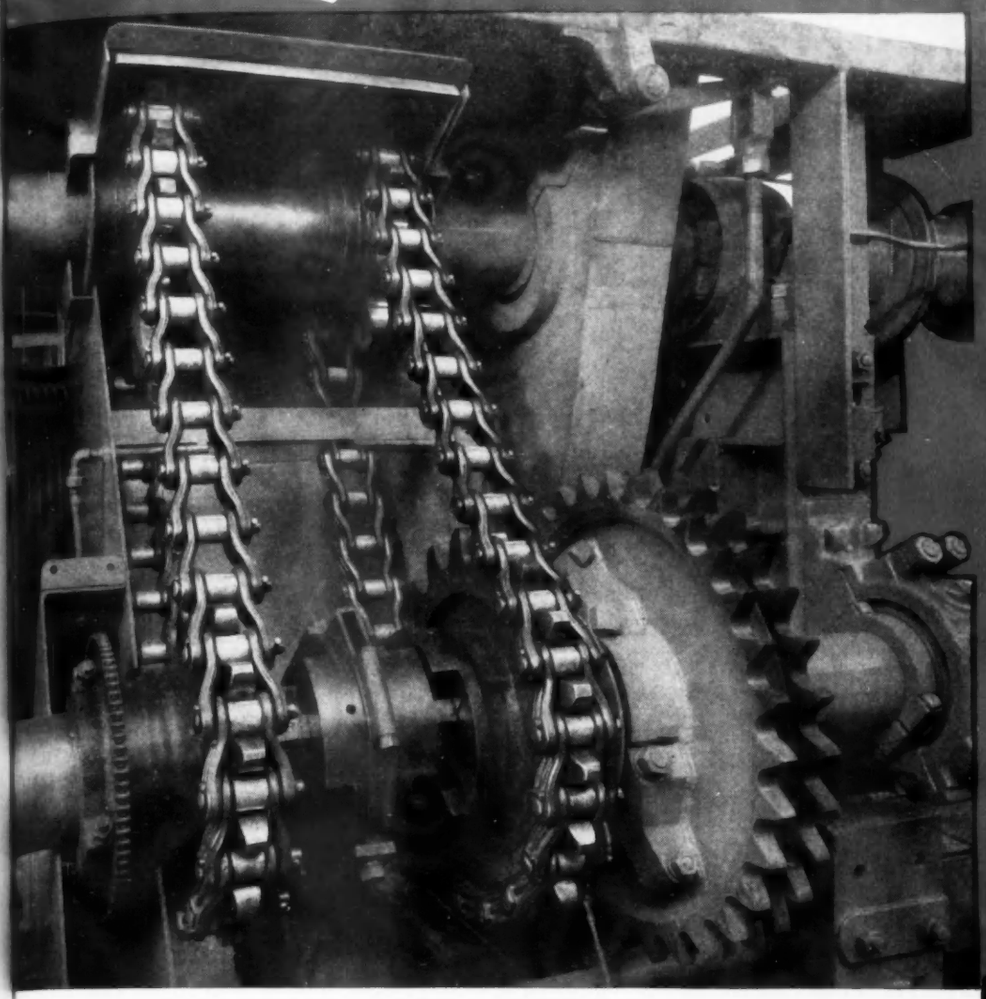

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The drawworks drives are Link-Belt SUPER HYPER Chain, per orders of the owner. Like most rig owners, this operator knows that SUPER HYPER will successfully combat the stresses and strains of today's and tomorrow's heavier loads that come with faster, deeper drilling . . . that the design, materials and craftsmanship employed in producing this remarkable heavy duty chain mean extra strength, freedom from distortion, smoother performance, and longer chain life. Without question, most rig owners accept Link-Belt SUPER HYPER as the peak achievement toward oil field chain perfection.

Per customer's orders also, the engine drive will be Link-Belt SS-3125 HYPER, Double-width Chain. What more could any operator ask in new rig performance than the driving power of this combination of great chains!

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A TYPE FOR EVERY OIL INDUSTRY SERVICE

West Texas Development Production and Reserve Data by Fields—Continued

County and Field	Producing Formation Data: Discovery Date	Range of Depths	Penetration	Name and/or Age	Acres: Total	Acres: Developed	Total Producing Wells: Oil	Total Producing Wells: Gas	Crude Production Data: Jan. Daily Allow.	Cumulative Yield: To Date	Cumulative Yield: Per Well	Cumulative Yield: Per Acre	Estimated Reserve	Deepest Test: Depth	Deepest Test: Formation Reached	Gravity Range
Winkler—Cont'd																
Bolin (Now Kermit)	7-28	2700-2900	200	Perm.	40	40	...	...	Included	wirh Kermit	Field			8445	Devonian	34-36
Brown-Altman (Now Kermit)	3-35	3100-3200	100	Perm.	.....	.....	...	...	Included	with Kermit	Field			8445	Devonian	
Eaves	11-36	3050-3180	75	Perm.	160	160	7	...	330	541,116	77,450	3,390	419,000	3210	Permian	26-29
Emperor	10-35	2700-3070	157	Perm.	1,700	1,100	70	...	1,400	2,558,165	36,600	2,325	4,042,000	3145	Permian	32-34
Emperor (Deep)	9-36	2740-3070	159	Perm.	1,600	1,120	48	8	640	283,687	5,900	255	2,636,000	3100	Permian	29-32
Halley	8-34	2684-3150	127	Perm.	700	560	24	1	400	845,857	33,850	1,510	2,514,000	3855	Permian	31-32
Henderson	4-36	2950-3100	51	Perm.	1,800	1,580	139	2	2,450	5,197,845	37,300	3,285	18,501,000	3201	Permian	30-31
Hill	2-35	3132-3155	23	Perm.	40	40	1	...	6	14,605	14,600	365	5,000	4170	Permian	27-29
Hendrick	7-26	2500-3200	78	Perm.	9,600	9,600	290	3	7,650	204,876,000	.....	21,350	20,000,000	3962	Permian	27-30
Keyes (Now Kermit)	3-36	2720-2878	158	Yates (Perm.)	.....	.....	...	...	Included	with Kermit	.....	.....	.....	8445	Devonian	.....
Kermit	10-34	2700-3210	238	Yates (Perm.)	12,000	10,200	827	14	7,800	26,665,000	.....	2,620	19,235,000	8445	Devonian	35-37
Keystone	7-35	3200-3550	125	Perm.	4,000	2,900	91	1	1,600	3,875,300	.....	1,340	13,525,000	4463	Permian	33-40
Keystone-Colby	11-35	3050-3320	150	Perm.	8,500	6,600	230	3	4,500	3,964,500	.....	600	22,436,000	8445	Devonian	37-39
Leek	5-28	3000-3200	45	Perm.	550	550	9	...	650	3,879,000	242,500	7,055	1,121,000	3780	Permian	27-30
Richardson-O'Brien	10-28	2830-3030	125	Perm.	160	160	3	...	40	468,700	78,000	2,920	51,300	3112	Permian	32-34
Scarborough	10-27	2770-3335	129	Perm.	2,200	1,900	134	1	1,700	6,573,000	.....	3,455	4,827,000	3565	Permian	34-37
Weiner	9-36	3005-3210	183	Perm.	320	80	2	1	53	13,850	6,925	170	1,600,000	3499	Permian	31-35
Yoakum:																
Bemmett (Now Wasson)	4-36	.....	....	.....	.....	.....	...	...	See	Gaines-Yoak	um Coun	ty	.....	11108	Ellenburger	.....
Ownby	3-41	5227-5355	95	San Andres (Perm.)	160	160	4	...	100	25,415	6,350	160	1,255,000	5700	Permian	30-35
Waples-Platter	5-39	5200-5305	92	San Andres (Perm.)	120	80	2	...	50	42,118	21,060	530	438,000	5380	Permian	30-32
West	8-37	5122-5255	33	San Andres (Perm.)	40	40	1	...	30	36,150	36,150	910	64,000	5503	Permian	32
	.....	.....	....	.....	.....	376,321	14,296	...	.....	1,195,073,183	.....	.....	2,564,831,950	....	.....	.....

Lea County, New Mexico, Development and Production Data by Fields

County and Field	Producing Formation Data: Discovery Date	Range of Depths	Penetration	Name and/or Age	Acres: Total	Acres: Developed	Total Producing Wells: Oil	Total Producing Wells: Gas	Crude Production Data: January Daily Allowable	Cumulative Yield: To Date	Cumulative Yield: Per Well	Cumulative Yield: Per Acre	Estimated Reserve	Deepest Test: Depth	Deepest Test: Formation Reached	Gravity Range
Lea County:																
Arrowhead	5-38	3612-3868	75	Perm.	4,040	4,040	101	...	4,386	3,019,555	29,900	750	25,260,000	4150	San Andres	34-36
Caprock	11-40	3025-3052	27	Perm.	40	40	1	...	Idle	1,546	1,546	.....	Dormant	4385	San Andres	36
Cooper	4-34	3410-3699	35	Perm.	4,120	4,120	87	11	3,118	13,096,849	130,000	3,180	9,563,000	3757	L. San Andres	29-30
Corbin (gas & oil)	6-38	4255-4350	63	Perm.	120	80	2	1	35	26,624	13,300	330	213,000	4319	San Andres	30-31
Culwin	1-42	2740-2751	11	Perm.	40	40	1	...	.....	.....	.....	.....	.....	None	.....	24.1
Eaves (S. Jal)	9-29	2938-3285	40	Perm.	3,000	1,500	23	3	931	2,851,968	106,000	1,900	2,149,000	3500	San Andres	27-32
Eunice	3-29	3730-4000	79	Perm.	20,040	20,040	491	4	19,816	53,426,668	106,300	2,665	106,793,000	4420	San Andres	32-33
Eunice, S	5-30	3716-3884	70	Perm.	3,040	3,040	75	5	2,768	4,659,706	62,300	1,540	16,620,000	6202	L. Perm.	32-33
Eunice, W	10-38	3680-3860	40	Perm.	680	680	16	...	613	377,377	22,200	550	3,703,000	4695	San Andres	31-32
Halfway	10-39	2615-2690	8	Perm.	360	360	9	...	396	177,988	19,800	495	1,981,000	4013	San Andres	25-26
Hardy	3-36	3555-3835	98	Perm.	6,000	4,800	120	...	1,961	3,949,517	32,600	825	12,990,000	3835	San Andres	36-38
Hobbs	11-28	3975-4253	127	Perm.	10,560	10,560	261	4	10,917	97,876,942	368,000	9,250	60,523,000	4720	San Andres	31-36
Jal	1-29	3256-3462	34	Perm.	2,000	2,000	18	8	383	5,238,084	122,000	2,620	462,000	3550	San Andres	28-30
Langlie	7-35	3165-3590	133	Perm.	8,400	8,400	126	22	3,815	6,803,098	52,000	810	22,597,000	3903	San Andres	38-40
Lovington	1-39	4600-5110	312	Perm.	1,800	1,600	40	2	16,908	1,180,941	29,500	740	8,419,000	5303	Perm.	34-35
Lynch	3-29	3719-3795	33	Perm.	660	660	11	...	458	6,848,453	526,000	10,390	1,152,000	4046	San Andres	29-30
Lynch, N	9-34	3556-3579	23	Perm.	40	40	1	...	7	58,420	8,345	1,460	5,000	3861	San Andres	37-38
Lynch, N.W	6-29	3350-3587	37	Perm.	40	40	1	...	16	96,081	96,000	2,380	29,000	3612	San Andres	34-35
Lynn	10-29	3540-3790	71	Perm.	1,320	1,320	29	9	1,082	1,647,295	50,000	1,250	6,273,000	5094	San Andres	31-36
Maljamar	7-26	2362-4733	...	Perm. (5 zones)	7,000	6,320	158	2	6,160	3,829,647	24,200	600	33,090,000	5150	San Andres	36-39
Mattix	7-35	3285-3770	146	Perm.	12,000	6,320	156	10	3,898	6,101,710	37,900	965	16,018,000	3913	San Andres	36-39
Monument	2-35	3740-4050	88	Perm.	20,080	20,080	497	2	20,879	46,289,201	92,100	2,300	134,431,000	4500	San Andres	32-37
Penrose	12-35	3534-3890	64	Perm.	7,600	7,600	190	...	3,131	6,931,070	36,100	915	19,669,000	4500	San Andres	36-38
Philmex	4-42	4484-4600	116	Perm.	40	40	1	...	.....	.....	.....	.....	Undeterm.	4771	San Andres	38-39
Rhodes	11-27	3005-3415	141	Perm.	1,000	1,000	13	13	482	364,856	28,100	365	4,635,000	3877	San Andres	31-40
Salt Lake	6-41	2990-3110	24	Perm.	200	200	5	...	220	14,030	2,800	700	1,186,000	4003	San Andres	26-30
Skaggs	3-37	3750-3890	105	Perm.	200	120	3	1	67	124,009	41,300	1,000	296,000	3900	San Andres	33
Skelly	12-35	3479-3712	116	Perm.	3,360	3,360	82	5	1,771	2,697,204	32,100	.....	9,063,000	4052	San Andres	36-38
Vacuum	7-29	4117-4860	233	Perm.	13,640	13,640	341	...	14,522	13,239,355	38,800	970	68,601,000	5194	San Andres	35-36
Vacuum, N.W.	6-38	4645-4685	40	Perm.	40	40	1	...	23	37,256	37,250	930	203,000	5021	San Andres	35
	.....	.....	....	.....	131,460	122,080	2,860	102	.....	280,965,450	.....	.....	431,493,000	....	.....	.....

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A Special Insert Map of West Texas-New Mexico (Permian Basin) Fields Is Included with This Issue

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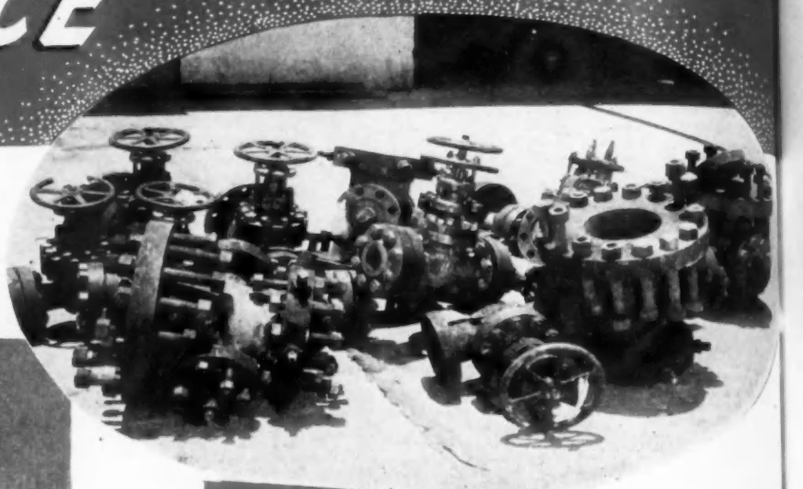

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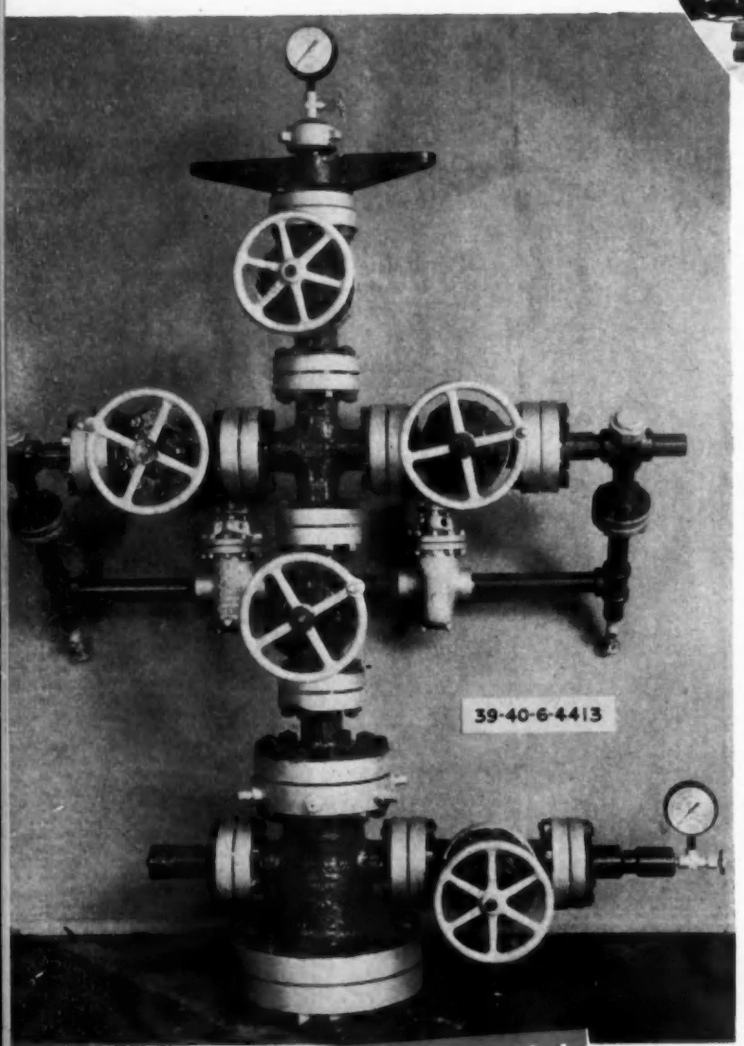

A completely re-worked, assembled and tested Christmas tree . . . good as new.

Here's a plan designed to aid the nation's drive to conserve precious steel and to assist you in converting your old, dismantled Christmas trees into usable equipment. The accompanying pictures show what can be done with tubing heads, valves and fittings that have been removed from wells and stacked away. Each unit is carefully inspected and new parts installed when required. Valves are torn down, inspected and overhauled. Suggested assembly drawings, utilizing all salvageable parts, are furnished, or the rebuilt trees will be assembled to your own specifications. Each tree is tested to full rated pressure, painted, mounted on skids and delivered to you in first class condition.

Take inventory of your used equipment. Chances are that you have valuable parts or complete trees that could be safely used on your future wells.

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WEST TEXAS-NEW MEXICO

Oil and Gas Fields

Geological Data and Development History

***Compiled by* THE OIL WEEKLY Staff**

Acknowledgment is made to the many operators, geologists and scouts, Texas Railroad Commission, University of Texas, New Mexico Oil Conservation Commission, and Lea County Operators Committee, who cooperated by making available records and checking data.

WEST TEXAS

ANDREWS COUNTY

ANDREWS, WEST

Discovery Data: Geology and geophysics. Atlantic Refining Co. and Helmerich & Payne's University 1, c ne ne sec 11, blk 11, July 6, 1940. **Structure:** Anticline. **Elevation:** 3300 ft. **Production Formations:** Permian (San Andres) between 4250 and 4475 ft (average 160-ft zone broken saturation). **Acreage:** 120 (scattered). **Production Jan. 1, 1942:** Daily, 40 bbls; cumulative, 9,184 bbls; estimated reserve, 240,000 bbls. **Producing Wells Jan 1, 1942:** 3. **Gravity:** 35-37. **Deepest Test:** Richmond Drl. Co. and Tom Hunter's University-Atlantic 1, c ne ne sec 21, blk 11, 2 mi w of s extension producer, abnd 5902 ft, April 16, 1940, no water in Lower Permian. **Outlets:** Trucks. **Remarks:** Offset drilled to discovery, and third well 2 mi s latter. Small pumping yield discourages further development.

DEEP ROCK (Ogden)

Discovery Data: Geology. Tripplehorn Bros. (was Deep Rock Oil Co.-Atlantic & California Co.'s) C. E. Ogden 1, swc se PSL sec 6, blk A-46, Dec. 18, 1929. **Structure:** Anticline. **Elevation:** 3200 ft. **Production Formations:** Permian (San Andres), 4340 to 4500 ft. Av 60 ft penetration. **Acreage:** Dev. 280; total, 800 acres. **Production Jan. 1, 1942:** Daily, 150 bbls; cumulative, 854,605 bbls; estimated reserve 545,400 bbls. **Producing Wells Jan. 1, 1942:** 10, flowing 4. **Gravity:** 26-32. **Deepest Test:** Deep Rock Oil Co. et al's Mathis 1, ne sw sw PSL sec 4, blk A-46, abnd 5088 ft. **Outlets:** Humble. **Principal Leaseholders:** J. W. and D. W. Tripplehorn et al. **Remarks:** Discovery group disposed of holdings due to delay in obtaining pipe line, and small initial yield of wells.

EMMA

Discovery Data: Subsurface and geophysical. Sinclair Prairie Oil Co.'s Emma Cowden 1, 273 ft from s and 511 ft from e lines T&P sec 12, blk 44, T-2-N, March 4, 1937. **Structure:** Anticline. **Elevation:** 3150 ft. **Production Formations:** Permian (San Andres) limestone, 4140 to 4500 ft (average 60-ft zone). **Acreage:** 1900. **Production Jan 1, 1942:** Daily, 1450 bbls; cumulative, 969,600 bbls; estimated reserve 14,230,400 bbls. **Producing Wells Jan. 1, 1942:** 60; flowing, 30. **Gravity:** 34-36. **Deepest Test:** L. H. Wentz et al's Cowden 1-L, nec T&P sec 3, blk 43, T-1-N, ¾-mi se production, abnd sulphur water 4428-36 ft. **Outlets:** Humble. **Principal Leaseholders:** Harry Adams & Bradley, Anderson & Prichard Oil Corp., Burma Petroleum Co., Cities Service, Montecito Corp. et al, Osage Drilling Co., Likins & Hall, Jay Simmons et al, Sinclair Prairie, Skelly, and Texas Co. **Remarks:** Productive area due to expand to n, e and w.

FUHRMAN

Discovery Data: Trend drilling. Fuhrman Petroleum Corp.'s Ford 1, 440 ft n and 220 ft e of swc PSL sec 16,. blk A-43, Nov. 21, 1930. **Structure:** Anticline. **Elevation:** 3180 ft. **Production Formations:** Permian 4200 to 4500 ft, av. 140 ft penetration. **Acreage:** Developed 1660; Total, 2000. **Production Jan. 1, 1942:** Daily, 1330 bbls; cumulative, 2,898,120 bbls; estimated reserve 7,062,000 bbls. **Producing Wells Jan. 1, 1942:** 54; flowing, 38. **Gravity:** 26-28. **Deepest Test:** R. H, Henderson et al's Parker 1, sec 111, Blk P, Vacancy Survey, southernmost producer, to 4556 ft. **Outlet:** Humble. **Remarks:** Productive area due to be expanded, possibly tie into West Fuhrman. Includes Walker pool, which was originally given separate designation.

FUHRMAN, WEST

2½ mi w of s end Fuhrman field. **Discovery Well:** Fuhrman Petroleum Corp.'s Lockhart-Brown 1, 467 ft out nec PSL sec 24, blk A-42, April 30, 1941. **Structure:** Anticline. **Elevation:** 3225 ft. **Production Formations:** Permian (San Andres) broken saturation ranging from 4250 to 4550 ft. **Acreage:** 40. **Production Jan. 1, 1942:** Daily, 55 bbls; cumulative, 5791 bbls; estimated reserve 234,200 bbls. **Producing Wells Jan. 1, 1942:** 1, flowing. **Rigs Running May 1, 1942:** 1. **Gravity:** 30-31. **Deepest Test:** Discovery logged intermittent water zones below 4600 ft in testing Clear Fork member Permian 5380-5600 ft, then plugged back for completion. **Outlet:** Humble. **Principal Leaseholders:** Fuhrman Petroleum Corp., Seaboard Oil Co., Drilling & Exploration, Inc., Cities Service, Phillips, and Magnolia. **Remarks:** Possibility pool may expand east to Fuhrman field; 2⅝ mi apart. West Fuhrman due considerable drilling.

FULLERTON

Near c of nw¼ of county. **Discovery Data:** Subsurface geology. Fullerton Oil Co.'s Wilson 1, ne sw se PSL sec 15, blk A-32, March 3, 1942. **Structure:** Anticline. **Elevation:** 3382 ft. **Production Formations:** Permian (Clear Fork) 7222-7324 ft. **Acreage:** 40. **Estimated Reserve:** 320,000 bbls. **Producing Wells:** 1, flowing. **Rigs Running April 15, 1942:** 3. **Gravity:** 43.1. **Deepest Test:** Discovery filled depth contract at 8005 ft, logging water at intervals below 7462 ft. **Outlet:** Tank trucks to Magnolia's Andrews station. **Principal Leaseholders:** Fullerton Oil Co., Magnolia, Stanolind, Texas Pacific Coal & Oil Co. and Union Oil Co. **Remarks:** This late discovery set in motion intensive lease buying program in Andrews and Gaines counties without regard to failures in regular Permian zones, and substantial number deep prospects due to be drilled in above counties.

MEANS

Discovery Data: Subsurface geology. Humble's Means 1, c ne ne PSL sec 2, blk A-35, August 6, 1934. **Structure:** Anticline. **Elevation:** 3160 ft. **Production Formations:** Permian (San Andres) 4325 to 4550 ft, av. 30-ft penetration. **Acreage:** Dev, 5380; total 6940 acres. **Production Jan. 1, 1942:** Daily, 3980 bbls; Cumulative, 5,330,000 bbls; estimated reserve 26,950,000 bbls. **Producing Wells Jan. 1, 1942:** 122; flowing, 62. **Gravity:** 28-30. **Deepest Test:** Humble's J. S. Means 1-B, c nw nw PSL sec 11, blk A-45, se edge structure, elev 3158 ft, oolitic lime 4850 ft, abnd in water 5227 ft, being 310 ft low. **Outlet:** Humble. **Principal Leaseholders:** Humble, Shell, J. W. Tripplehorn et al. **Remarks:** Area can support additional drilling from inside locations and possible minor extensions while deeper production is worthy of consideration. High percentage of flowing wells can be attributed to 40-ac spacing and conservation of gas energy.

PARKER

Discovery Data: Subsurface geology. Honolulu Oil Corp. and Llano Oil Co.'s Parker 1-A, c sw PSL sec 7, Blk A-44, Dec. 9, 1934. **Structure:** Anticline. **Elevation:** 3200 ft. **Production Formations:** Permian (San Andres) 4615 to 4760 ft, av. 120-ft penetration. **Acreage:** 80. **Production Jan. 1, 1942:** Daily 30 bbls; cumulative 79,906 bbls; estimated reserve 50,000 bbls. **Producing Wells Jan. 1, 1942:** 2. **Gravity:** 32-33. **Deepest Test:** Discover's Parker 1-6, nec nw PSL sec 6, blk A-44, abnd in sulphur water 4793-4806 ft. **Outlet:** Humble. **Principal Leaseholders:** Honolulu and Llano. **Remarks:** Area not defined; development discouraged by small initial yield.

SHAFTER LAKE (Gas)

Discovery Data: Geology. The Texas Co.'s University 1-H, nw ne se sec 4, blk 14, Dec. 8, 1938. **Structure:** Anticline. **Elevation:** 3165 ft. **Production Formations:** Permian (Yates sand) 2920-50 ft. **Acreage:** 40. **Producing Wells Jan. 1, 1942:** 1, gas. **Deepest Test:** Discovery drilled to 4856 ft, plugged back and casing perforated for gasser, rated 1,760,000 ft daily. **Outlet:** Andrews Gas Co. to Andrews. **Remarks:** Nearby dry holes in regular Permian eliminate this prospect, except for Lower Permian and Ordovician possibilities.

TRIP

3½ mi sw Deep Rock pool. **Discovery Data:** Subsurface and geophysics. J. W. Tripplehorn et al (was Seaboard Oil Co.'s) Munger & Nix 1, c ne PSL sec 1, blk A-41, March 10, 1938. **Structure:** Anticline. **Elevation:** 3250 ft. **Production Formations:** Permian (San Andres) 4445-4526 ft (broken saturation). **Acreage:** 40. **Production Jan. 1, 1942:** Daily, 5 bbls; cumulative, 10,750 bbls; estimated reserve 10,000 bbls. **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 31-32. **Outlet:** Trucks. **Principal Leaseholder:** J. W. Tripplehorn et al. **Remarks:** Discovery has averaged about 5 bbls daily since completion. No development contemplated for area.

ANDREWS-ECTOR COUNTY

EMBAR (Gas-Oil)

4 mi w Emma field. **Discovery Data:** Geology, geophysics and core drill. Phillips Petroleum Co.'s Frank Cowden-Embar 1, 660 ft s of s line University sec 31, blk 10, and 660 ft e of w line and in T&P sec 5, blk 44, T-2-N, Oct. 25, 1940 (gasser). Company's Cowden-Embar 1-A, c se se T&P sec 6, blk 44, T-1-N, Ector County, 2⅞-mi s by w.

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gasser, Feb. 2, 1941, as first oil well. **Type Structure:** Anticline. **Elevation:** 3220 ft. **Production Formations:** Gas: Permian (San Andres) 4146-4240 ft (broken porosity). Oil: Permian (San Andres) 4204-4312 ft (average 70-ft zone broken saturation). **Acreage:** Developed, 120 (scattered); total, 600 (scattered). **Production Jan. 1, 1942:** Daily, 50 bbls; cumulative, 8516 bbls; estimated reserve 240,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 3; flowing, 2; gas, 1. **Gravity:** 34-36. **Deepest Test:** Discoverer's University-Andrews 1, c nw ne sec 32, blk 10, Andrews County, 1¼ mi ne discovery gasser, abnd Ellenburger 8364-68 ft. **Oil Outlet:** Trucks to Gulf Refining Co. **Principal Leaseholder:** Phillips. **Remarks:** Area designated officially as West Andrews pool, although 6 mi apart. Phillips using core machine to develop holdings, with 4½-in for oil string, as oil yield per acre subnormal in area explored.

COCHRAN COUNTY

DEAN

Discovery Well: Pete N. Wiggins, Jr., and C. Ed Hyde et al's C. Slaughter Dean 1, center tr 26, 1346 ft from n and 11,660 ft from w lines League 92, Lipscomb CSL, March 6, 1938. **Type Structure:** Stratigraphic trap combined with slight folding. **Elevation:** 3750 ft. **Production Formations:** Permian (San Andres) limestone 4907 to 5076 ft, average 96 ft penetration. **Acreage:** Developed, 120; total, 1000 (est.). **Production Jan. 1, 1942:** Daily, 40 bbls; cumulative, 78,789 bbls; estimated reserve 400,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 2; flowing, 1. **Gravity:** 30-31. **Deepest Test:** Geo. P. Livermore, Inc. (was J. R. Meeker et al's) D. S. Wright 1, 660 ft out sec Lab 26, Leag 96, Mills CSL, originally completed for small flow at 4924-34 ft, deepened to Clear Fork, td 6621 ft, plugged May 20, 1941. Showed additional gas immediately below original producing level, Glorietta, topped 5530 ft, and Clear Fork barren. **Outlet:** Trucks. **Remarks:** Three wells extend along nw-se trend, involving 5¼ mi without related failures. Remaining 2 wells 2½ mi apart, and both currently capable of exceeding initial flows. Area may eventually prove to be nw continuation of Slaughter field, and when market conditions justify will get considerable development.

DUGGAN (Now Slaughter)

Discovery Data: Random drilling. Honolulu Oil Corp.-Cascade Petroleum Co.-Devonian Oil Co.'s Duggan 1, c Lab 13, Leag 55, Oldham CSL, October 22, 1936. **Remarks:** Duggan consolidated by commission's order effective Dec. 1, 1940, with Slaughter, and discussed under latter. Discoveries of original Duggan and Slaughter pools 11 miles apart.

RHODES

2½ mi w Slaughter field production. **Discovery Data:** Geology and trend. Atlantic Ref. Co.-Ray R. Rhodes' Dean 1-A, near c n¼ Lab 4, Leag 89, Lipscomb CSL, March 14, 1941. **Type Structure:** Unidentified. **Elevation:** 3728 ft. **Production Formations:** Permian (San Andres) limestone 5093-5114 ft. **Acreage:** 40. **Production Jan. 1, 1942:** Daily, 30 bbls; cumulative, 2566 bbls; estimated reserve 7500 bbls. **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 28. **Deepest Test:** Discovery to sulphur water 5114-50 ft. **Outlet:** Trucks. **Remarks:** Most probable an offshoot of Slaughter field. North offset dry at 5110 ft. Thin pay and water in discovery discounts area.

CONCHO COUNTY

WILSON

15 mi sw Eden. **Discovery Data:** Geology. Floyd C. Dodson et al's Robt. Wilson 1, 425 ft from n and 1250 ft from w lines sec 1, Thomas Greene sur, Dec. 31, 1941. **Structure:** Unidentified. **Approximate Elevation:** 2300 ft. **Production Formations:** Basal Pennsylvania 3754-65 ft. **Acreage:** Developed, 40 ac; total 40 ac. **Production Jan. 1, 1942:** Daily, 5 bbls; cumulative, 500 bbls; estimated reserve (unimportant). **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 45. **Deepest Test:** Discovery drilled to 4102 ft. **Outlet:** Trucks. **Remarks:** Preliminary production test Sept., 1940, at 3759 ft indicated 50-bbl pumper, then deepened with negative results. Completed pumping 5 bbl initial, plus 50 percent water. In past county has yielded both oil and gas wells with favorable initial performance then failed to maintain commercial output.

CRANE COUNTY

DUNE

Direct strike between Church-Fields and Ella Waddell areas. **Discovery Data:** Geology and trend. Magnolia Petroleum Co.'s University 1, nwc Sec 16, Blk 30, May 15, 1938. **Structure:** Anticline. **Elevation:** 2650 ft. **Production Formations:** Permian 3150 to 3380 ft, average 110-ft penetration. **Acreage:** Developed, 1000; total, 1600. **Production Jan. 1, 1942:** Daily, 580 bbls; cumulative, 437,069 bbls; estimated reserve, 4,363,000 bbls. **Producing Wells Jan. 1, 1942:** 27; flowing, 12. **Rigs Running May 1, 1942:** 1. **Gravity:** 32-36. **Deepest Test:** Gulf's University 1-F, nw se se Sec 22, Blk 31, 3½ miles southwest Dune production, nominal saturation in Ellenburger, topped 10,629 ft, abnd 10,658 ft. Standard of Texas' University 1, nwc Sec 4, Blk 30, ⅝ mile northeast production, abnd sulphur water 3786-95 ft. **Outlet:** Humble. **Principal Leaseholders:** Wasomes Oil Co., Magnolia. **Remarks:** Wide spacing of wells imperative to attain profitable operations. Estimates on prospective producing acreage range up to 2560 acres and reserves 8,000,000 bbls, although lease owners have not indicated intentions of developing their second-rate producing tracts.

ELLA WADDELL

Between Gulf-Waddell and Dune areas. **Discovery Data:** Subsurface and trend. Gulf Oil Corp.'s W. N. Waddell 31, nw se sw PSL 5, Blk B-24, June 29, 1940. **Structure:** Anticline. **Elevation:** 2700 ft. **Production Formations:** Permian limestone 3220 to 3400 ft, intermittent saturation. **Acreage:** Developed, 160; total, 200. **Production Jan. 1, 1942:** Daily, 95 bbls; cumulative, 30,750 bbls; estimated reserve 470,000 bbls. **Producing Wells Jan. 1, 1942:** 4; flowing, 1. **Gravity:** 32-35. **Deepest Test:** Discovery to sulphur water 4056 ft, plugged back. **Outlet:** Gulf. **Principal Leaseholder:** Gulf. **Remarks.** Area due to be linked with Dune and Gulf-Waddell areas, 2 miles southeast and northwest, respectively, of Ella Waddell discovery.

JONES

1¼ miles south Sand Hills Deep Field. **Discovery Data:** Geology and trend. Continental Oil Co.'s E. B. Jones 1, c n¼ of n¼ H&TC 12, Blk 3, November 8, 1941. **Structure:** Anticline. **Elevation:** 2474 ft. **Production Formations:** Lower Simpson (Waddell) sandy-lime 5725-40 ft and 5905-21 ft. **Acreage:** 40. **Production Jan. 1, 1942:** Daily, 15 bbls; cumulative, 1428 bbls; estimated reserves, 50,000 bbls. **Producing Wells Jan. 1, 1942:** 1 flowing. **Gravity:** 42.3. **Deepest Test:** Discovery drilled to non-productive Ellenburger 6045-6146 ft, plugged back to 6015 ft, excluding sulphur water. **Outlet:** Gulf. **Principal Leaseholders:** Continental, Gulf, Magnolia, Standard of Texas. **Remarks:** This single-well pool producing below the water level in the Ordovician when correlated with nearest Sand Hills wells, and encountered Ellenburger 487 ft low. Later development may reveal that it is related to Abell structure, Pecos County, thus emphasizing production possibilities of intermediate acreage.

McKNIGHT

2½ miles northwest nearest Permian production in Sand Hills. **Discovery Data:** Subsurface geology. Gulf's McKnight 1, c sw sw PSL 9, Blk B-21, June 31, 1935. **Structure:** Superimposed minor high on large anticlinal dome. **Elevation:** 2700 ft. **Production Formations:** Permian (McKnight of San Angelo) sandy-lime 3535 to 3650 ft, av 65-ft penetration. **Acreage:** 120. **Production Jan. 1, 1942:** Daily, 15 bbls; cumulative, 73,448 bbls; estimated reserve, 26,500 bbls. **Producing Wells Jan. 1, 1942:** 3. **Gravity:** 29-30. **Deepest Test:** Gulf's McKnight 5, c se PSL 1, Blk B-21, 1⅛ miles northeast of production, top Simpson 6430 ft, abnd in Ellenburger 7614 ft. **Outlet:** Gulf. **Principal Leaseholder:** Gulf. **Remarks:** Three of 5 tests on discovery block carried to Ellenburger with negative results. Production possibilities of Permian not fully determined, although trio producers without flush yield. McKnight 3 yielded small amount 29-gravity oil after nitro shot 6100-75 ft after plugging back from Ellenburger 6164-6278 ft, then completed in regular pay.

SAND HILLS

Discovery Data: Surface geology and core drill. Gulf Oil Corp. and Cranfill Bros.' J. B. Tubb 1, sec ne PSL Sec 8, Blk B-27, June 11, 1931. **Structure:** Anticlinal dome. **Elevation:** 2530 to 2690 ft. **Production Formations:** Permian (Clear Fork) 4220 to 4700 ft, average 137-ft penetration. Permian (big lime) 2700 to 2875 ft, gas. **Acreage:** 6000. **Production Jan. 1, 1942:** Daily, 3900 bbls; cumulative, 2,939,000 bbls; estimated reserve, 57,061,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 122; flowing, 113; gas, 2. **Rigs Running April 15, 1942:** 4. **Gravity:** 34-37. **Deepest Test:** See Sand Hills Deep. **Outlets:** Gulf, Humble, Shell. **Principal Leaseholders:** American Liberty Oil Co. et al, Gulf et al, Humble, Magnolia, Shell. **Remarks:** Sand Hills structure is one of the largest in basin; origin due to deep-seated granite mountains. Development of permian, which produces from Clear Fork, lower middle section, and below first sulphur water zone, was held in abeyance until lease expirations forced action in 1936. Permian production to be expanded northeast and east, and recent proving of this horizon admist Ellenburger wells 3 miles south affords possibility of major enlargement of Permian producing area, which will add in excess of 100 wells. McKnight pool officially included with Sand Hills, but given separate treatment in this report.

SAND HILLS (Ordovician)

Discovery Data: Geology and geophysical investigations after this abnormally large structure proved for Clear Fork (Lower Permian) production. Gulf Oil Corp.'s W. N. Waddell 1, c nw nw PSL 4, Blk B-27, Feb. 5, 1936. **Structure:** Anticlinal dome. **Elevation:** 2460 to 2620 ft. **Production Formations:** Ordovician (Simpson) 5980 to 6300 ft, av 186-ft penetration; Ordovician (Ellenburger dolomite) 5620 to 6012 ft, av 25-ft penetration. **Acreage:** 1200. **Production Jan. 1, 1942:** Daily, 990 bbls; cumulative, 577,900 bbls; estimated reserve 13,822,000 bbls. **Producing Wells Jan. 1, 1942:** 27; flowing, 25. **Rigs Running May 1, 1942:** 2. **Gravity:** 32-39, average 37. **Deepest Test:** Loffland Bros. Co.'s J. B. Tubb-Gulf 3, nw nw nw PSL 9, Blk B-27, northwest edge of Permian production, elevation 2540 ft, top Simpson 5791 ft, top Ellenburger 5802 ft, abandoned in granite 7115-58 ft. **Outlets:** Gulf, Humble, Shell. **Principal Leaseholders:** Gulf et al, American Liberty Oil Co. et al, Humble. **Remarks:** Natural potential of 1885 bbls oil developed by Gulf's Waddell et al 4 from Ellenburger dolomite at 6004-14 ft became first important Ordovician flow for the district outside Big Lake field. Gulf's Tubb 4-B established biggest potential, rated 14,457 bbls, and is in south extension area, which is 2¾ miles from main field. Intermediate acreage is prospective Ellenburger producing territory, with possibilities of Simpson production on west flank.

TAYLOR-HUGHES (See McCamey)

Discovery Data: Trend drilling from McCamey. Shell Oil Co.'s (was Independent O&G Co.-Turman-Maxwell's) Len Taylor 1, c sw nw se 6, H. T. Sapp Sur, Feb. 24, 1926. **Structure:** Anticline. **Production Formations:** Permian limestone, ranging from 2000 to 2500 ft. **Production Jan. 1, 1942:** Included with McCamey field. **Gravity:** 24-30. **Remarks:** Area linked with McCamey field and lost its identity.

WADDELL (Gulf-Waddell)

Discovery Data: Core drill and surface geology. Gulf Oil Corp.'s W. N. Waddell 2, nec PSL 10, Blk B-25, August 29, 1927. **Structure:** Anticline. **Elevation:** 2780 ft. **Production Formations:** Permian from 3480 to 3650 ft, av 23-ft penetration. **Acreage:** Developed, 1540; total, 2000. **Production Jan. 1, 1942:** Daily, 1560 bbls; cumulative, 3,649,657 bbls; estimated reserve 7,130,000 bbls. **Producing Wells Jan. 1, 1942:** 80; flowing, 69. **Rigs Running May 1, 1942:** 4. **Gravity:** 33-35. **Deepest Test:** S. Caprito et al's (was Wahlenmaier Pet. Corp. et al's) W. P. Edwards 1, sw sw ne PSL 12, Blk B-23, isolated ½ mile northeast main field, drilled to sulphur water 3715-20 ft, plugged back and completed Sept. 1934, as small pumper, then designated as Edwards pool although actually part Waddell field. **Outlet:** Gulf. **Principal Leaseholders:** Gulf, Magnolia, S. Caprito et al, Steve Currie and E. M. Wahlenmaier. **Remarks:** Early exploratory work centered over area 3 miles southeast and south of what now constitutes the prolific portion, and because of small oil yield production was suspended until 1935. Production has since been advanced northwest to link this area with the Jordan and Penwell (Judkins) fields into single unit. Waddell sector occasionally yields outstanding flowing wells after acidizing, ranging up to 23,282 bbls initial, and more than score additional wells to be drilled under 40-acre spacing restrictions.

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CRANE-ECTOR COUNTY

JORDAN

Discovery Data: Trend drilling. H. M. Clark-Cooper & Smith's Jordan 1, near c ne ne PSL sec 12, blk B-22, Feb. 21, 1937. **Structure:** Anticline. **Elevation:** 2840 ft. **Production Formations:** Permian 3340 to 3700 ft, average 149 ft penetration. **Acreage:** Developed, 4300; total 4800. **Production Jan. 1, 1942:** Daily, 4500 bbls; cumulative, 4,490,263 bbls; estimated reserve 25,610,000 bbls. **Producing Wells Jan. 1, 1942:** 220; flowing, 187. **Gravity:** 33-35. **Deepest Test:** Discovery to 3750 ft. **Outlet:** Gulf Refining Co. **Remarks:** Discovery on extreme sw edge of area. When complete was 3½ mi s of Penwell-Judkins field and 5 mi nw of Gulf-Waddell field. However, subsequent development revealed all 3 areas on unbroken producing structure. Jordan made separate pool primarily to give high allowable to University leases that comprise greatest portion of area.

CRANE-UPTON COUNTY

CHURCH & FIELDS (Now McElroy)

Discovery Data: Trend drilling. Magnolia et al (was Church-Fields et al's) University 1, nw se se sec 34, blk 30, April 19, 1926. **Structure:** Anticline. **Elevation:** 2570 ft. **Production Formations:** Permian 2780-3150 ft, average 77 ft penetration. **Gravity:** 30-32. **Deepest Test:** Discussed under McElroy, 12,786 ft, Ellenburger. **Outlets:** Gulf, Humble and Texas-New Mexico. **Remarks:** University of Texas fee land, embracing 2900 ac on n end field, produced 56,623,287 bbls prior to Jan. 1, 1942, from 210 wells for average yield of 19,525 bbls per ac. This sector of structure largely developed before proration restrictions, and 10-ac spacing generally prevailed. Commission ordered Church & Fields and McElroy merged on March 5, 1941.

COWDEN-CRANE

Northwest trend from McCamey field. **Discovery Data:** Geology and trend. Marland Oil Co.'s Benton 1, 300 ft out swc Sec 1, Julia Prater Sur, Upton County, May 12, 1926. **Structure:** Anticline. **Elevation:** 2520 ft. **Producing Formation:** Permian sandy-lime, 2200 to 2650 ft, av 62-ft penetration. **Acreage:** Developed, 2200; total 2600 (scattered). **Production Jan. 1, 1942:** 520 bbls; cumulative, 2,569,525 bbls; estimated reserve, 4,030,000 bbls. **Producing Wells Jan. 1, 1942:** 101. **Deepest Test:** Continental Oil Co.'s Mary Dawson 1, nec GC&SF 84, Blk X, southwest edge production, abnd 3407 ft. **Gravity:** 28-30. **Outlets:** Humble and Shell. **Remarks:** No development of consequence in store for this stripper area, which is continuation of McCamey field, although prorated as separate pool.

McELROY

Discovery Data: Surface geology and trend. Gulf Oil Corp.'s J. T. McElroy 1, sec sec 203, blk F, CCSD&RGNG sur, July 21, 1926. **Structure:** Anticline. **Elevation:** 2630 ft. **Production Formations:** Permian 2650 to 3170 ft, averaging 154 ft penetration. **Acreage:** Developed 11,340; total, 15,000 (scattered). **Production Jan. 1, 1942:** Daily, 14,990 bbls; cumulative, 122,200,000 bbls; estimated reserve 127,280,000 bbls. **Producing Wells Jan. 1, 1942:** 582; flowing, 154. **Rigs Running April 15, 1942:** 3. **Gravity:** 30-32. **Deepest Test:** Gulf's McElroy 103, c nw sw sec 197, blk F, Upton County, drilled to water in Ellenburger 12,391-12,786 ft, May, 1935, temporarily establishing world depth record and remains deepest in district; pb for successful completion regular Permian. **Outlets:** Gulf, Humble, Texas-New Mexico. **Remarks:** Includes Church-Fields, Gulf-McElroy, Eddleman and McClintic. Production advanced n to unite with Church & Fields area, and later to s to connect with McClintic and Eddleman pools, all officially grouped under McElroy heading March 5, 1941. N portion of structure on University lands, and performance of this sector discussed under Church & Fields. University sector has produced an average of 19,525 bbls per ac from 210 producers. In excess of 200 additional wells likely to be drilled in McElroy field, majority on Gulf's McElroy leasehold, which embraces the bulk of the structure.

CROCKETT COUNTY

BEAN

13 miles northwest Ozona. **Discovery Data:** Subsurface geology. E. M. Wahlenmaier and Steve C. Currie's Geo. Bean 1, c sw ne GC&SF 48, Blk UV, Feb. 18, 1941. **Structure:** Anticline. **Elevation:** 2512 ft. **Production Formations:** Permian sandy-lime 1451-56 ft. **Acreage:** 40. **Production Data Jan. 1, 1942:** Daily 15 bbls; cumulative 3500 bbls; estimated reserve 10,000 bbls. **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 26. **Deepest Test:** Superior Oil Co. et al's Todd 1, c se ne GC&SF 55, Blk UV, elev 2537 ft, top Crinoidal 6808 ft, Simpson 7131 ft, Ellenburger 7424 ft, abnd 7948 ft. **Outlets:** Trucks to Texas-New Mexico Pipe Line Co.'s Ozona station. **Remarks:** Development halted after discoverers completed offset failures.

CLARA COUCH

5½ miles northwest Fort Lancaster. **Discovery Data:** Geology. Inman & Roger Harris (was R. H. Henderson et al's) Couch-Shell 1, 467 ft from n and 2173 ft from e lines HE&WT 37, Blk GG, Sept. 8, 1941. Humble's Owens 1-B, c sw ne HE&WT 8, Blk GG, small gasser, March 31, 1942. **Structure:** Anticline. **Elevation:** 2733 ft. **Production Formations:** Permian sandy-lime 1905 to 2181 ft, average 60 ft penetration Permian (Yates sandstone) 1060-75 ft (small gas). **Acreage:** 80 (scattered). **Production Jan. 1, 1942:** Daily 30 bbls; cumulative 2346 bbls; estimated reserve 240,000 bbls. **Producing Wells Jan. 1, 1942:** 2; flowing 1. **Rigs Running April 15, 1942:** 5. **Gravity:** 25-26. **Deepest Test:** Geo. A. Henshaw-McMan O&G Co.'s Owens 1, c nw GC&SF 17, Blk GG, 1½ mi nw production, elev 2769 ft, gas 1934-37 ft; trace oil 3725 and 3890 ft, abnd May 18, 1928, td 4368 ft. **Outlet:** Trucks. **Principal Leaseholders:** Cities Service, L. H. Choate et al, Humble, Inman & Harris, Gulf and Shell. **Remarks:** Discovery flowed 88 bbls 6 hours after acid; second well, 1½ miles northwest, pumped 108 bbls initial, about 100 ft broken pay. Pool may embrace sizeable production area, and excellent deep prospect.

CROCKETT

Discovery Data: Subsurface geology. Lu-Tex Oil, Inc. (was L. H. Choate and F. T. Hogan's) University-Gulf 1-K, 2342 ft from w and 1650 ft from s lines Sec 17, Blk 14, April 13, 1938. **Structure:** Anticline. **Elevation:** 2350 ft. **Production Formations:** Permian limestone 1350 to 1500 ft, averaging 50 ft broken saturation. **Acreage:** Developed 1060, total 1200. **Production Jan. 1, 1942:** Daily 270 bbls; cumulative 271,412 bbls; estimated reserve 2,131,000 bbls. **Producing Wells Jan. 1, 1942:** 28; flowing 8. **Gravity:** 26 to 31, averaging 29. **Deepest Test:** Lu-Tex Oil Co.'s University-Gulf 5-17, ne sw nw Sec 17, Blk 14, recomplete at 1660 ft as pumper. Kimberlin's Robbins-Superior 1, sec GC&SF 4, Blk W, ½ mi nw production, abnd 1850 ft. **Outlets:** Gilcrease Oil Co. line to Humble at McCamey; others trucks. **Remarks:** More development due for area as some leases afford attractive flowing wells.

HOOVER

Discovery Data: Random drilling. Roger Harris et al (was W. L. Bradley et al's) Hoover 1, sw sw nw GC&SF 1, Blk 1, May 18, 1938. **Structure:** Anticline. **Elevation:** 2250 ft. **Production Formations:** Permian sandy-lime 1417-40 ft, av. 20 ft penetration. **Acreage:** 40. **Production Jan. 1, 1942:** Daily 35 bbls; cumulative 2709 bbls; estimated reserve 47,300 bbls. **Producing Wells Jan. 1, 1942:** 2. **Rigs Running May 1, 1942:** 1. **Gravity:** 27-28. **Deepest Test:** Discovery to 2173 ft. Ryan et al's Hoover 1, se sw sw GC&SF 6, Blk 1, 1½ miles northwest, abnd 5810 ft. **Outlets:** Trucks. **Remarks:** Production justifies additional development, which will occur when line available.

LIVE OAK

Discovery Data: Geology. Olson Oil Co.-Moore Exploration Co.'s A. C. Hoover 1, nw ne sw GC&SF Sec 16, Blk 1, July 3, 1940. **Structure:** Anticline. **Elevation:** 2445 ft. **Production Formations:** Permian sandy-lime 2010-2150 ft. **Acreage:** 40. **Production Jan. 1, 1942:** Daily 5 bbls; cumulative 2180 bbls; estimated reserve 10,000 bbls. **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 30. **Outlet:** Trucks. **Remarks:** Discovery pumped 53 bbls initial after nitro shot and acid. Area possibly related to Simpson pool.

NOELKE (Soma-Noelke)

Discovery 4½ miles east of south edge Yates field. **Discovery Data:** Subsurface geology. Soma Oil & Gas Co.'s W. T. Noelke 1, 2500 ft from n and 2310 ft from w lines HE&WT 30, Blk GG, April 12, 1940. **Structure:** Anticline. **Elevation:** 2330 to 2883 ft. **Production Formations:** Permian (Yates) 992 to 1825 ft average 28 ft penetration. **Acreage:** Developed 1200; total 1600. **Production Jan. 1, 1942:** Daily 450 bbls; cumulative 111,028 bbls; estimated reserve 5,889,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 25; flowing 24; gas 8. **Rigs Running May 1, 1942:** 4. **Gravity:** 34-36. **Deepest Test:** Moore Exploration Co.-Olson Oil Co.'s Halff 2-C, 467 ft from s and 1628 ft from e lines I&GN Sec 68, Blk 1, ⅞-mile west pool discovery well, abnd in Ellenburger 6740-6977 ft; used acid in middle Permian 3623-46 ft and 3725-30 ft, elevation 2316 ft. **Outlets:** Crockett Gathering System, Inc., owned by pool operators, delivers to Texas-New Mexico in Yates field. **Remarks:** Pool extends northwest-southeast 3¾ miles, and gas wells within and around oil wells rated up to 50,000,000 ft daily at 1033 to 1575 ft, averaging 24-ft penetration. Oil pay is erratic with wells ranging up to 15,657 bbls potential (natural).

OLSON

5 miles southeast Soma-Noelke field. **Discovery Data:** Moore Exploration Co. and Olson Oil Co.'s Noelke 1, c nw se HE&WT 10, Blk GG, June 4, 1940. **Structure:** Anticline. **Elevation:** 2720 ft. **Production Formations:** Permian sandy-lime 2160-2371 ft (broken saturation). **Acreage:** 40. **Production Jan. 1, 1942:** Daily 30 bbls; cumulative 5395 bbls; estimated reserve 25,000 bbls. **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 27-28. **Outlets:** Trucks. **Remarks:** Discovery pumped 130 bbls initial, and on 5300-ac block. Pool may develop into important producing area.

SHANNON (Gas)

Discovery Data: Random drilling. W. W. Donnelly et al's J. M. Shannon 1, center D&SE 11, Blk 9, Oct. 16, 1927. **Production Formations:** Permian 1664-80 ft. **Acreage:** 10. **Producing Wells:** Gas, plugged. **Remarks:** Discovery gauged 6,000,000 ft gas, 800 lbs rock pressure. Abandoned. No market.

SIMPSON (Was Hoover)

Discovery Data: Random drilling. R. C. Chambers et al's A. C. Hoover 1, ne se ne B&B 1, Blk FF, Jan., 1933. **Structure:** Anticline. **Elevation:** 2520 ft. **Production Formations:** Permian 1930-2105 ft av. penetration 30 ft. **Acreage:** 100. **Production Jan. 1, 1942:** Daily 15 bbls; cumulative 5097 bbls; estimated reserve 4100 bbls. **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 27-28. **Deepest Test:** Magnolia's Hoover 1, se se ne GC&SF 12, Blk 1, 2 miles northwest discovery, abnd 6160 ft. **Outlets:** Trucks. **Remarks:** Ownership of wells in this area changed frequently. Small yield and cost delivering oil to pipe line discourages development.

TODD (Gas)

Discovery Data: Geology. The Texas Co. (was J. C. Cooke et al's) J. S. Todd 1, c ne sw GC&SF 50, blk "WX," April 24, 1926. **Elevation:** 2673 ft. **Production Formations:** Permian sandy-lime 1680-1700 ft. **Acreage:** 10. **Deepest Test:** Discovery drilled 2102 ft, small volume free oil 1900-10 ft, then plugged back. **Remarks:** Discovery block 1870 acres and well sold Feb. 17, 1926, while awaiting test on top gas pay, for $650,000, including $250,000 cash. Purchaser later tested 4,750,000 ft gas daily, then deepened with negative results, plugged back and shut in for lack market. Later plugged and leases surrendered.

TODD DEEP

Discovery Data: Geology and geophysics. Continental Oil Co. et al's J. S. Todd 2-B, c ne sw GC&SF 29, Blk WX, March 24, 1940. **Elevation:** 2500 ft. **Production Formations:** Pennsylvanian (Crinoidal) 5565 to 6082 ft, average penetration 79 ft. **Acreage:** Developed 480; total 640. **Production Jan. 1, 1942:** Daily 400 bbls; cumulative 129,731 bbls; estimated reserve 5,630,000 bbls. **Producing Wells Jan. 1, 1942:** 12; flowing. **Rigs Running May 1, 1942:** 1. **Gravity:** 40-41. **Deepest Test:** Continental et al's Todd 1-B, c s½ ne sw GC&SF 30, Blk WX, ¼-mile east of production, plugged 2-1-40, in Ellenburger 6256-7010 ft, provided shows that resulted in discovery through follow up test. **Outlets:** Trucks to Texas-New Mexico Pipe Line Co.'s Ozona station. **Principal Leaseholders:** Amerada et al and Continental et al. **Remarks:** Only Permian Basin area producing exclusively from Crinoidal, although latter yields wet gas in completing Orodovician wells at Big Lake.

TODD DEEP, WEST

3½ miles west Todd Deep Pool. **Discovery Data:** Geophysical. Amerada Petroleum Corp. et al's J. S. Todd 1-C, c sw sw GC&SF 15,

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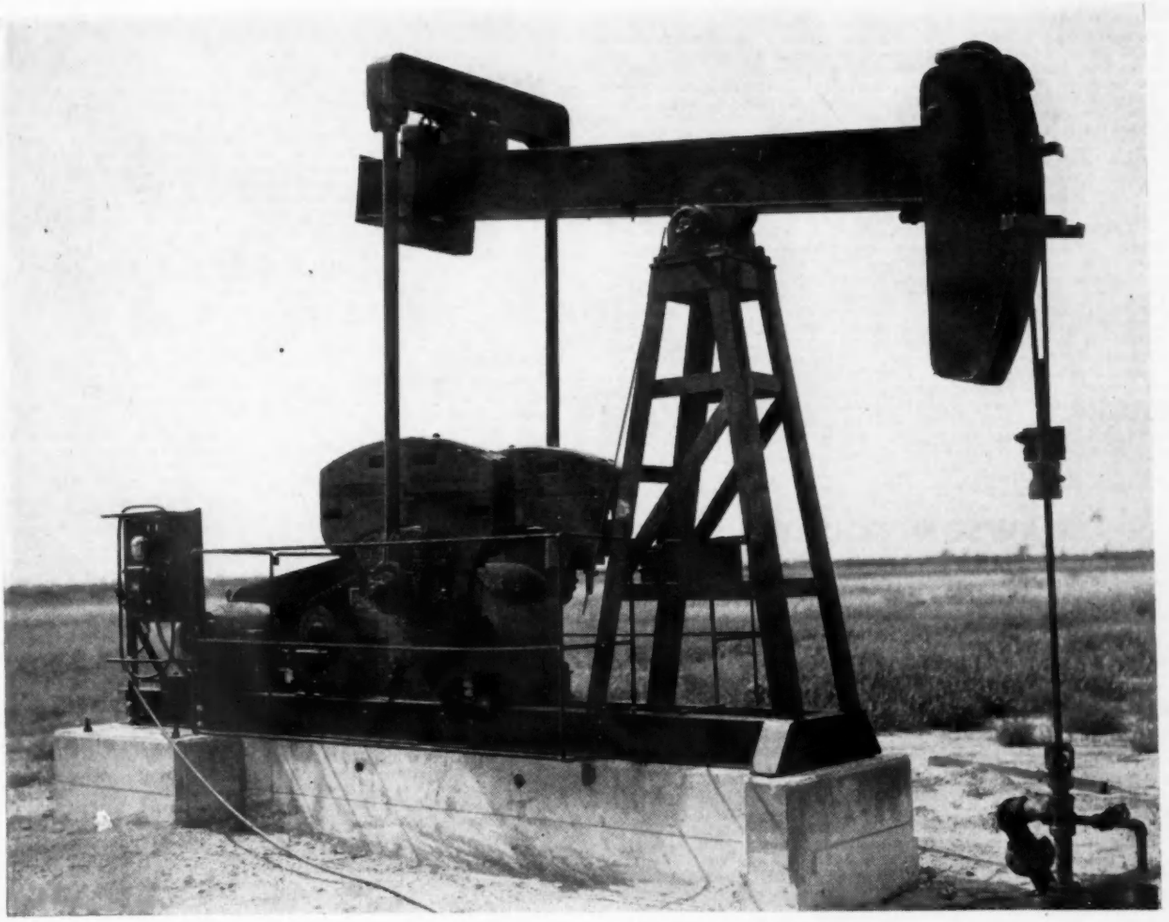

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OCS

Blk 10, Sept. 30, 1941. **Structure:** Anticline. **Elevation:** 2430 ft. **Production Formations:** Pennsylvanian (Crinoidal) 6428-49 ft. **Acreage:** 40. **Production Jan. 1, 1942:** Daily 30 bbls; cumulative 3100 bbls; estimated reserve 47,000 bbls. **Producing Wells Jan. 1, 1942:** 1 flowing. **Gravity:** 37.8. **Deepest Test:** Discovery to Ellenburger 6975-7143 ft; plugged back and perforated. **Outlets:** Trucks to Ozona station. **Principal Leaseholders:** Amerada and unit members. **Remarks:** Failure one mile north, and also 1½ miles southeast, with latter isolating area from Todd Deep pool.

WORLD-POWELL

Discovery Data: Random drilling. Humble and Continental's (was World Oil Co.'s) L. P. Powell 1, ne¼ Sec 2, Blk BB-2, June 8, 1925. **Structure:** Anticlinal dome. **Elevation:** 2800 ft. **Production Formations:** Permian 2450 to 2690 ft, average penetration 15 ft. **Acreage:** Developed 1900 (scattered); total 2400. **Production Jan. 1, 1942:** Daily 1650 bbls; cumulative 7,270,481 bbls; estimated reserve 3,000,000 bbls. **Producing Wells Jan. 1, 1942:** 65. **Rigs Running May 1, 1942:** 1. **Gravity:** 28-31. **Outlets:** Humble. **Remarks:** Appreciable revival of drilling was underway when 40-ac spacing order imposed by federal restrictions. Area classed as high-octane crude source. Deep mineral rights in demand.

WYATT (Was Todd)

Discovery Data: Surface geology. Continental et al's (Marland) J. S. Todd 1-A, c ne se GC&SF 26, Blk WX, Jan. 17, 1933. **Structure:** Anticline. **Elevation:** 2530 ft. **Production Formations:** Permian sandy-lime (San Andres) 1369 to 1542 ft. **Acreage:** 160 (scattered) **Production Jan. 1, 1942:** Daily 20 bbls; cumulative 27,937 bbls; estimated reserve 70,000 bbls. **Producing Wells Jan. 1, 1942:** 1 flowing. **Gravity:** 21-22. **Deepest Test:** Stanolind Oil & Gas Co.'s Todd Unit 1, near c ne GC&SF Sec 67, Blk "UV," abandoned 8041 ft in Ellenburger, unsuccessful tests made of favorable shows in upper Ordovician. **Outlets:** Trucks to Texas-New Mexico Pipe Line Co. **Remarks:** This shallow pool scattered over 3 sections, being northeast and southeast of Todd Deep, which was developed later. Early wells prematurely abandoned due to absence of market. Shallow pay will receive nominal development when pipe line available.

DAWSON COUNTY

SCANLAN

Discovery Well: Atlantic et al's (was E. L. Wilson-Pickens and Lomax's) T. H. Scanlan 1, c nw nw ELRy 83, Blk M, Sept. 15, 1937. **Structure:** Anticline. **Elevation:** 3111 ft. **Production Formations:** Permian (San Andres) 4836-4932 ft (broken saturation). **Acreage:** 40. **Production June 15, 1938:** Cumulative 1200 bbls; discovery plugged. **Gravity:** 35. **Remarks:** Atlantic took over discovery and reconditioned Jan., 1938, temporarily doubled pumping yield.

WELCH (Was Albaugh)

Discovery Data: Random drilling. R. A. Albaugh et al's Robinson 1, c nw¼ ELRy 46, Blk M, Nov. 27, 1936. **Structure:** Anticline. **Elevation:** 3085 ft. **Production Formations:** Permian limestone 4920 to 5000 ft, broken saturation. **Acreage:** 80. **Production Jan. 1, 1942:** Daily 30 bbls; cumulative 690 bbls; estimated reserve (unimportant). **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 33. **Deepest Test:** Discovery to water at 5038 ft. **Outlet:** Trucks. **Remarks:** Discovery produced "several tanks" of oil, proved non-commercial then abandoned. Production revived when Albaugh and Richmond Drilling Co.'s Handley 1, c se sw EL 36, Blk M, 1¼ miles east by north, completed as pumper Dec. 12, 1941.

ECTOR COUNTY

COWDEN, NORTH

Discovery Data: Subsurface geology. Stanolind's (was Southern Crude) J. M. Cowden 1, swc nw T&P 26, Blk 43, T-1-N, Sept. 10, 1930. **Structure:** Anticline. **Elevation:** 3070 ft. **Production Formations:** Permian (San Andres) 3985 to 4850 ft, average 185 ft penetration. **Acreage:** Developed 19,600; total 21,400. **Production Jan. 1, 1942:** Daily 15,800 bbls; cumulative 21,107,495 bbls; estimated reserve 135,693,000 bbls. **Producing Wells Jan. 1, 1942:** 506; flowing 447. **Rigs Running April 15, 1942:** 5. **Gravity:** 29 to 36, average 33. **Deepest Test:** Stanolind's Cowden 1-B, c se sw T&P 12, Blk 44, T-1-N, 1½ miles west of north end field, abnd 7000 ft, Permian. **Outlet:** Humble. **Remarks:** North and northeast portions of structure due to be expanded. Production extends 13 miles north-south, with maximum width 4½ miles.

COWDEN, NORTH, DEEP

Discovery Data: Prospecting below regular pay in North Cowden field. Gulf's Holt 1, sec w½ PSL 1, Blk A, June 21,1939. **Structure:** Anticline. **Elevation:** 3090 ft. **Production Formations:** Lower Middle Permian (Holt) sandy-lime 5099 to 5215 ft, averaging 20 ft (net) of oil saturation and porosity. **Acreage:** 240 (scattered). **Production Jan. 1, 1942:** Daily 125 bbls; cumulative 90,000 bbls; estimated reserve 510,000 bbls. **Producing Wells Jan. 1, 1942:** 5; flowing 4. **Gravity:** 37-38. **Deepest Test:** Stanolind's W. F. Cowden 1-B, c se sw T&P 12, Blk 44, T-1-N, mile west of deep production, minor oil-stained lime 6525-40 ft, abnd 7000 ft. **Outlet:** Humble. **Remarks:** Total 6 Holt-pay oil completions on west flank of North Cowden field structure, scattered for interval of 6¾ miles. Most southerly of group noncommercial pumper account of excessive water. Sinclair Prairie's Johnson 8-D, southeast part structure dry in Holt zone at 5474 ft and Broderick & Calvert's Holt 4-B, mile north discovery, abnd in Holt 5211-68 ft. This discovery greatly stimulated interest and deeper drilling in central and northern sectors of basin.

COWDEN, SOUTH

(Included with Foster). **Discovery Data:** Subsurface geology. L. C. Harrison et al's P. V. Addis 1, 1320 ft from w and 330 ft from n lines T&P 25, Blk 43, T-2-S, Jan. 30, 1933. **Remarks:** This area originally known as Addis, then South Cowden, being listed for proration purposes as latter, although linked by production with Foster area.

DOURO

3½ miles southeast Douro. **Discovery Data:** Geology. Forest Development Corp.'s W. L. Bradley 1, sec T&P 18, Blk 43, T-3-S, Dec. 8, 1940. **Structure:** Anticline. **Elevation:** 3041 ft. **Production Formations:** Permian (San Andres) 4310-62 ft. **Acreage:** 40. **Production Jan. 1, 1942:** Cumulative 555 bbls; estimated reserve (unimportant). **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 29-30. **Deepest Test:** Discovery to 4410 ft, plugged back to 4362 ft. Forest's Edwards 1-C, mile southeast pb from 4502 ft for small pumper, but not commercial. **Outlet:** Truck. **Principal Leaseholder:** Forest. **Remarks:** Forest suspended development after 3 dry holes within 1½ miles radius to west, southwest and southeast.

FOSTER

(Includes Johnson and South Cowden). **Discovery Data:** Trend exploration. Barnsdall Oil Co.'s H. C. Foster 1, c se se T&P 13, Blk 43, T-2-S, Dec. 21, 1935. **Structure:** Anticline. **Elevation:** 2960 ft. **Production Formations:** Permian (San Andres) 4000 to 4400 ft, average penetration 160 ft. **Acreage:** Developed 19,480; total 21,000. **Production Jan. 1, 1942:** Daily 18,800 bbls; cumulative 16,641,624 bbls; estimated reserve 109,978,000 bbls. **Producing Wells Jan. 1, 1942:** 789, flowing 478. **Rigs Running May 1, 1942:** 4. **Gravity:** 33-35. **Deepest Test:** York-Harper and Sloan-Zook Co.'s Foster 1-D, swc n½ ne T&P 8, Blk 42, T-2-S, east portion field, water in Clear Fork 5550-75 ft, pb and completed in regular pay. **Outlets:** Humble. **Remarks:** South Cowden, Johnson and Foster, discovered in the order named, are officially classified as separate pools for proration purposes, but involve a single structure without a break in the trend of production, extending 12 miles north-south with maximum width of 5¾ miles.

GOLDSMITH

Discovery Data: Geology. Gulf Oil Corp.'s Goldsmith 1, c nw T&P 10, Blk 44, T-1-S, June 14, 1935, oil discovery that was preceded by prolific wet-gas strike by Landreth Production Corp.'s C. Scharbauer 1, c se se T&P 20, Blk 44, T-1-N, Nov. 18, 1934. **Structure:** Anticline. **Elevation:** 3150 ft. **Production Foramtions:** Permian 4060 to 4300 ft, average 85 ft penetration. **Proven Acreage:** Developed 21,580, total 24,300. **Production Jan. 1, 1942:** Daily 24,000 bbls; cumulative 32,716,467 bbls; estimated reserve 311,000,000 bbls. **Producing Wells Jan. 1, 1942:** Oil 958, flowing 911, gas 2. **Rigs Running May 1, 1942:** 2. **Gravity:** 36-38. **Deepest Test:** Continental's Wight 1-A-18, swc T&P 18, Blk 43, T-1-S, ¼-mile east of production, abnd sulphur water 4250-4455 ft. **Outlets:** Gulf, Shell. **Remarks:** Gas discovery proved to be northeast portion structure, and later surrounded by oil wells. Oil discovery, situated 3⅗ miles to southeast and near edge of structure. Southwest portion of structure subject to major extensions, and will receive considerable additional development with Gulf in control of area. Gulf's 32-section Goldsmith lease embraces substantial portion of field and is subject to surrender at close of 50-yr period, thereby making this company the logical pioneer in exploring the deep production possibilities of the structure.

GOLDSMITH, NORTH (Cummins)

Discovery Data: Random drilling. Cascade Pet. Co. and Atlantic's Cummins 1, c nw nw T&P 10, Blk 45, T-1-N, July 10, 1934. **Structure:** Anticline. **Elevation:** 3310 ft. **Production Formations:** Permian 4220 to 4500 ft average penetration 200 ft. **Acreage:** Developed 400 (scattered), total 600 (scattered). **Production Jan. 1, 1942:** Daily 150 bbls; cumulative 64,080 bbls; estimated reserve 1,936,000 bbls. **Producing Wells Jan. 1, 1942:** Oil 10; flowing 8; gas 1. **Gravity:** 32-36. **Deepest Test:** M. A. Grisham-M. J. Delaney's Cowden 1, c ne se T&P 4, Blk 45, T-1-N, broken saturation 5655-5801 ft, 15 bbls oil initial after acid; broken oil saturation (Clear Fork) 6230-6431 ft, total depth, swabbed small amount 38-gr sweet oil after multiple acids, abnd Sept. 15, 1941. **Outlet:** Gulf. **Principal Leaseholders:** Grisham-Hunter Corp., Grisham-Delaney-Graham & Melat, J. C. Hunter and H. L. Graham, and Magnolia. **Remarks:** Initial strike, being on southeast edge structure, completed as wet gasser. Area between pool and Goldsmith field to get more development in future.

HARPER

Discovery Data: Subsurface geology. Broderick & Calvert's E. F. Cowden 1, 330 ft n of center of s line T&P 25, Blk 44, T-2-S, Oct. 11, 1933. **Structure:** Anticline. **Elevation:** 3050 ft. **Production Formations:** Permian 4000 to 4300 ft, average penetration 175 ft. **Acreage:** Developed 3600; total 4000. **Production Jan. 1, 1942:** Daily 2700 bbls; cumulative 7,320,068 bbls; estimated reserve 14,280,000 bbls. **Producing Wells Jan. 1, 1942:** 184; flowing 41. **Gravity:** 35-37. **Deepest Test:** R. L. York & O. C. Harper's Bates-Moss 1, c ne ne T&P 38, Blk 44, T-2-S, mile south production, abnd in San Andres water 4455-4518 ft. **Outlets:** Humble, Shell. **Remarks:** 10-acre spacing observed on property lines, and inside locations not drilled on numerous leases. Doubtful if any appreciable development will be given area in future unless through extensions, which are possible.

JOHNSON

Discovery Data: Subsurface geology. Stanolind's (was Landreth's) J. L. Johnson 1, 440 ft out nwc T&P 47, Blk 43, T-1-S, Dec. 31, 1934. **Structure:** Anticline. **Remarks:** Included with Foster. When completed, Johnson pool discovery was 5 miles north by west of South Cowden and 6 miles south by east of nearest production in North Cowden. Foster discovery occurred later, and its development eventually expanded to unite with Johnson and South Cowden.

MIDWAY

Between Goldsmith and Harper fields. **Discovery Data:** Trend along with subsurface and geophysics. Oil Well Drilling Co.'s J. L. Johnson-Shell 1, 467 ft out of nwc T&P 48, Blk 44, T-1-S, Feb. 26, 1942. **Structure:** Anticline. **Elevation:** 3064 ft. **Production Formations:** Permian (San Andres) 4210-4353 ft (broken saturation). **Acreage:** 40. **Estimated Reserve:** 20,000 bbls. **Producing Wells Jan. 1, 1942:** 1, pumping 1. **Gravity:** 33. **Deepest Test:** Landreth-Shell's Johnson 1-A, se se nw T&P 43, Blk 43, T-1-S, 1½ miles se, drilled previous to discovery; entered Clear Fork 5155 ft, elev 3046 ft, water 5215-33 ft, abnd 3-2-40 at 5308 ft. **Outlet:** Trucks. **Principal Leaseholders:** Oil Well Drilling Co., Shell, Landreth, Gulf, Atlantic, Stanolind. **Remarks:** Discovery flowed 20 bbls initial ½-in, gas/oil ratio 10,864/1, after nitro shot and acid. Followup explorations hinge upon production performance.

PENWELL (Judkins)

Discovery Data: Geology. Texas Co.'s (was Cosden) W. E. Connell 1-A, c ne PSL Sec 13, Blk B-16, Jan., 1927. **Structure:** Anticline. **Elevation:** 2900 ft. **Production Formations:** Permian 3280 to 3818 ft average penetration 134 ft. **Acreage:** Developed 4600; total 5000. **Production Jan. 1, 1942:** Daily 4400 bbls; cumulative 22,445,881 bbls; estimated reserve 14,354,000 bbls. **Producing Wells Jan. 1, 1942:** Oil 173; flowing 84; gas 1. **Gravity** 34-36. **Deepest Test:** Phillips' Scharbauer 1, ne se se PSL 16, Blk B-15, ½-mile west of north end field, abnd 4102 ft. **Outlets:** Humble, Gulf. **Remarks:** This discovery first for county. Initial well plugged 9-23-40. Development lagged due to small wells until Oct., 1929, when Penn Oil Co. and Humble's T. P. Land Trust 1, more than 2 miles northeast of initial explorations, uncovered prolific production. Field has since been linked with Jordan and Gulf-Waddell areas to southeast. Proration instituted Aug. 1, 1930. Total 32 wells making water for aggregate of 400 barrels daily. Total of 5 producers depleted and plugged. South portion Penwell field allotted to Jordan for proration purposes by commission order.

FISHER COUNTY

BENNETT-DAUBE

3½ miles southwest of Rotan. **Discovery Data:** Surface geology, and core drill. Sam and D. Daube and Forest Development Co.'s A. C. Bennett 1, c ne ne H&TC 51, Blk 2, July 16, 1938. **Structure:** Anticline. **Elevation:** 2020 ft. **Production Formations:** Pennsylvanian (Noodle Creek) lime 3685 to 3705 ft av 13 ft penetration. **Acreage:** 40. **Production Jan. 1, 1942:** Daily 20 barrels; cumulative 60,200 bbls; estimated reserve 39,800 bbls. **Producing Wells Jan. 1, 1942:** 2. **Gravity:** 42-43. **Deepest Test:** Forest's Morrow 1, c nw nw H&TC 48, Blk 2, east offset to discovery, abnd 4425 ft. **Outlet:** Truck to Post Refining Co. **Principal Leaseholders:** Discoverers control area. **Remarks:** Development terminated after 3 failures offsetting production.

McCAULLEY

One mile southeast McCaulley. **Discovery Data:** Subsurface geology. F. A. Stevenson et al's J. L. Maberry 1, c se sw HT&B 56, Blk 1, March 8, 1941. **Structure:** Anticline. **Elevation:** 1950 ft. **Production Formations:** Pennsylvanian (Cook) 3260-3335 ft, av 8 ft penetration. **Acreage:** 200. **Production Jan. 1, 1942:** Daily 185 bbls; cumulative 22,269 bbls; estimated reserve 578,000 bbls. **Producing Wells Jan. 1, 1942:** 6. **Rigs Running May 1, 1942:** 2. **Gravity:** 40-42. **Deepest Test:** L. A. Long et al's D. M. Maberry 1, 660 ft from s and 825 ft from w lines of n½ HT&B 56, Blk 1, ½-mile northwest of discovery, junked 4153 ft. **Outlet:** Trucks to Moutray Refining Co. **Remarks:** Area likely to be materially expanded, although completions comparatively small.

ROTAN

Centering 2 miles northeast Rotan. **Discovery Data:** Surface and subsurface geology. Southern Oil Corp.'s Joe Robinson 1, c e½ nw H&TC 172, Blk 2, May 15, 1937. **Structure:** Anticline. **Elevation:** 1960 ft. **Production Formation:** Pennsylvanian 3480 to 3600 ft, average 8-ft penetration. **Acreage:** Developed 690; total 900. **Production Jan. 1, 1942:** Daily 450 bbls; cumulative 1,210,000 bbls; estimated reserve 859,500 bbls. **Producing Wells Jan. 1, 1942:** 33; flowing 3. **Gravity:** 40-42. **Deepest Test:** Montour Production Co.'s Taggart-Tidal 1, c ne sw H&TC 184, Blk 2, Camp Colorado 3398 ft, trace oil 3770-80 ft, trace gas 5215-20 ft, abnd 5664 ft in Strawn. **Outlets:** Tide Water gathering to Humble; truck to Post Refining Co.'s plant. **Remarks:** Bordering failures have defined area.

ROTAN, EAST

2½ miles east by north of Rotan pool. **Discovery Data:** Surface geology. Tide Water and Merry Bros. & Perini's M. Howard 1, c ne ne H&TC 180, Blk 2, March 5, 1935. **Structure:** Anticline. **Elevation:** 1855 ft. **Production Formations:** Pennsylvanian (Noodle Creek) lime 3640 to 3688 ft, av 25-ft penetration. **Acreage:** 60. **Production Jan. 1, 1942:** Daily 25 bbls; cumulative 196,530 bbls; estimated reserve 13,500 bbls. **Producing Wells Jan. 1, 1942:** 3. **Gravity:** 37-38. **Deepest Test:** Discoverers' W. E. Hittson 1, 1320 ft from n and 660 ft from e lines H&TC 177, Blk 2, abnd hole full salt water 3705-07 ft; ¼-mile east of discovery. **Outlet:** Tide Water gathering system to Humble. **Remarks:** Discoverers drilled on 9600-acre block, controlling area.

ROYSTON

2½ miles northeast of Royston. **Discovery Data:** Surface geology. Texas Co.'s Stephens 1-A, sec H&TC 79, Blk 1, Jan. 17, 1928. **Elevation:** 1820 ft. **Production Formations:** Pennsylvanian sandy-lime 3080 to 3240 ft, average 12-ft penetration. Pennsylvanian sandy-lime 3782-3800 ft; not commercial. **Acreage:** Developed 2400;; total 3600 (scattered). **Production Jan. 1, 1942:** Daily 1215 bbls; cumulative 11,328,000 bbls; estimated reserve 4,570,000 bbls. **Producing Wells Jan. 1, 1942:** 103. **Gravity:** 38-39. **Deepest Test:** General Crude Oil Co.'s Flannigan 12, c w½ BBB&C 200, Blk L, within field, small volume oil with salt water through perf 4515-25 ft, top Ellenburger 6094 ft, Cambrian (Hickory) sandstone 6410-6746 ft, abnd. **Outlets:** Humble, Shell. **Remarks:** Development about concluded due to small yield and water conditions. Two Ellenburger failures discount deep possibilities.

GAINES COUNTY

CEDAR LAKE

Northeast corner county, centering upon dry salt lake. **Discovery Data:** Geophysics. Stanolind's J. B. Rayner 1, c sw sw PSL 3, Blk C-30, Sept. 18, 1939. **Structure:** Anticline. **Elevation:** 3050 ft. **Production Formations:** Permian (San Andres) 4550 to 4830 ft, average 160 ft, broken pay. **Acreage:** Dev 1500; total 1720. **Production Jan. 1, 1942:** Daily 1050 bbls; cumulative 256,365 bbls; estimated reserve 7,244,000 bbls. **Producing Wells Jan. 1, 1942:** 33; flowing 1. **Rigs Running May 1, 1942:** 2. **Gravity:** 33-34. **Deepest Test:** San Andres Production Co.'s Johnson-Sun 1, c nw nw PSL 6, Blk C-30, mile south production, abnd 5100 ft. **Outlet:** Stanolind to Texas-New Mexico Pipe Line Co. **Principal Leaseholders:** Stanolind, L. C. Harrison, Mid-Continent Petroleum Corp., Humble, Mabee Oil & Gas Co. **Remarks:** With few exceptions, all wells established potential by swabbing after nitro shot. Stanolind's Riley 1, 2 miles north production, made small pumper in field pay, and intermediate acreage has production possibilities. Area has deep production possibilities.

KIRK

Discovery Data: Subsurface geology. Landreth Production Corp.'s W. H. Kirk 1, swc PSL 22, Blk A-21, Oct. 1, 1936. **Structure:** Anticline. **Elevation:** 3271 ft. **Production Formations:** Permian (San Andres) 4703-4850 ft (broken saturation). **Acreage:** 40. **Production Jan. 1, 1942:** Cumulative 1000 bbls; estimated reserve (dormant). **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 26-28. **Deepest Test:** Stanolind's Davis-Bean 1, c nw se PSL 18, Blk A-21, 1¼ miles north by west of discovery, sulphur water 5005-38 ft, abnd. **Remarks:** Discovery inactive since Jan. 1, 1937, due to small yield and isolation from market. Acreage in area currently in big demand as explorations to be resumed with Clear Fork, or other Lower Permian zones as objectives. Four dry holes within 1½ miles radius.

SEMINOLE

Discovery Data: Geophysics. Harry Adams et al's (was Amerada et al's) Averitt-Ohio 1-A, c ne ne W. T. 228, Blk G, Dec. 28, 1936, being twin location to W. T. Walsh and Harry Adams Corp.'s partially junked gasser completed in upper pay March 15, 1936, and later plugged. **Structure:** Anticlinal dome. **Elevation:** 3350 ft. **Production Formations:** Permian 5010 to 5380 ft, average 144-ft penetration. **Acreage:** Developed 12,000; total 12,600. **Production Jan. 1, 1942:** Daily 9050 bbls; cumulative 3,926,323 bbls; estimated reserve 128,074,000 bbls. **Producing Wells Jan. 1, 1942:** 284; flowing 281. **Rigs Running: April 15, 1942:** 1. **Gravity:** 33-35. **Deepest Test:** Osage Drilling Co.'s Johnson-Ohio 1, c se se G. W. 268, Blk G, mile north of production, abnd 5491 ft. **Outlets:** Atlantic, Magnolia. **Remarks:** 40-acre spacing. Prolific gas production in upper section of Permian will eventually be used in flowing wells. Production will be expanded south and southwest of Seminole townsite. Structure rated as outstanding prospect for deep production, which will not be explored for some years hence.

WASSON DEEP

Within Wasson field. **Discovery Data:** Routine exploration below regular pay. Amon G. Carter et al's Wasson 5-D, 440 ft out of swc se¼ PSL 50, Blk AX, Dec. 24, 1940. **Structure:** Anticline. **Elevation:** 3564 ft. **Production Formations: Permian** (San Andres) discussed under Wasson, Permian (Clear Fork) 6210-6881 ft, broken saturation. Permian (lower Clear Fork) 7055-7433 ft, broken saturation. **Acreage:** 160. **Production Jan. 1, 1942:** Daily 150 bbls; cumulative 29,850 bbls; estimated reserve 1,570,150 bbls. **Producing Wells:** 2. **Gravity:** 32-34. **Deepest Test:** Carter's Wasson 4-D, nwc se PSL 50 1760 ft n of discovery, drilled through Ellenburger, topped at 10,545 ft to 11,108 ft, logged noncommercial oil saturation 10,550-10,580 ft, plugged back for completion 11-28-41 through perf 7055-7375 ft, establishing field's 3rd pay zone. **Outlet:** Shell. **Remarks:** Exploration of Clear Fork Zones at standstill since completion 2 producers and J. W. Murchison and Leland Fikes' Sawyer 1, c sw se sec 702, 7½ miles north and on north edge regular Wasson production. Latter entered Glorietta at 6045 ft, elev 3623 ft, and without shows at 6788 ft, where junked. Unusual thickness of broken pay section in Wasson deep will induce further prospecting when market conditions justify. Area placed on 80-acre spacing.

GAINES-YOAKUM COUNTY

WASSON

Discovery Data: Geophysical. Amon G. Carter and Continental Oil Co.'s Wasson 1, swc nw PSL 48, Blk AX, June 19, 1937. **Structure:** Anticline. **Elevation:** 3600 ft. **Production Formations:** Permian (San Andres) 4780 to 5310 ft, av 182-ft penetration. Permian (Clear Fork) 6210- 6881 ft (broken saturatoin), one well. Permian (Clear Fork) 7055-7433 ft (broken saturation), one well. **Acreage:** Developed, 56,000; total, 58,000. **Production Jan. 1, 1942:** Daily 40,700 bbls, cumulative, 33,050,049 bbls; estimated reserve 419,550,000 bbls. **Producing Wells Jan. 1, 1942:** 1311; flowing, 1253. **Rigs Running May 1, 1942:** 11. **Gravity:** 32-34. **Deepest Test:** Amon G. Carter's Wasson 4-D, nwc se PSL 50, Blk AX, drilled through Ellenburger, topped at 10,545 ft, to 11,108 ft, logging non-commercial oil saturation 10,550-10,580 ft and in Ellenburger, plugged back for completion 11-28-41, perforations 7055-7375 ft. **Outlets:** Atlantic, Humble and Shell. **Remarks:** Wasson and Bennett areas merged by continuous production, becoming second largest producing structure in basin and third in rank for state, although discovery well of each 12¼ miles apart. Bennett sector developed on 20-ac spacing, while 40-acre units generally adopted for Wasson.

GARZA COUNTY

JUSTICEBURG

3⅜ miles east of Justiceburg. **Discovery Data:** Surface geology. Emerald Oil Co.'s (was B. V. Blackwell's) J. M. Boren 1, nw H&GN 136, Blk 5, May, 1926. **Structure:** Anticline. **Elevation:** 2350 ft. **Producing Formations:** Permian sandy-lime 2505 to 2573 ft, av 31-ft penetration. **Acreage:** 80. **Production Jan. 1, 1942:** Daily 20 bbls; cumulative 104,535 bbls; estimated reserve 95,500 bbls. (Production and reserves includes Post pool). **Producing Wells Jan. 1, 1942:** 2. **Gravity:** 38. **Deepest Test:** Emerald Oil Co.'s J. M. Boren 3, c nw ne H&GN 136, Blk 5, 1st sulphur water 3000-05 ft, td 4801 ft, plugged back and completed regular zone. **Outlet:** Truck. **Remarks:** Development retarded during early life of pool due to isolation from market. 6 pumpers completed.

POST

2½ miles southeast of Post. **Discovery Data:** Random drilling. M. L. Richards et al's Sullivan 1, nwc Sec 3, Blk 5, K. Aycock sur, July 26, 1935. **Structure:** Anticline. **Elevation:** 2525 ft. **Production Formations:** Permian sandy-lime 2705 to 2936 ft, av 126-ft penetration. **Acreage:** 160. **Production Jan. 1, 1942:** Daily 25 bbls; cumulative and estimated reserve included with Justiceburg. **Producing Wells Jan. 1, 1942:** 2. **Gravity:** 35-36. **Deepest Test:** Grisham-Hunter Corp.'s Sullivan 1, 330 ft from s and 2310 ft from e lines Sec 3, S. E. Harper sur, Blk H. 1¼ miles southeast of pool, abnd sulphur water 2925-3007 ft. **Outlet:** Truck to local refinery. **Remarks:** Partially defined by failures in regular zones; 6 pumpers completed.

SWENSON

Northeast corner county. **Discovery Data:** Geology and geophysics. Gulf's J. P. Swenson Cattle Co. 1-B, c nw H&GN 25, Blk 2, Dec. 2,

1938. **Structure:** Anticline. **Elevation:** 2274 ft. **Producing Formation:** Basal Pennsylvanian 7327-34 ft. **Producing Area:** 40. **Production:** Cumulative 1321 bbls; estimated reserves (dormant). **Deepest Test:** Discovery drilled through Ellenburger 7888-8085 ft to granite 8085-8104 ft, 7⅝-in 7395 ft, pb and perf. **Gravity:** 36-37. **Outlet:** Trucks. **Remarks:** Discovery flowed 148½ bbls pipe-line oil 9½ hours on initial test, then by heads until water broke in. Extensive tests through perforations in original pay and higher levels failed to revive commercial production. Discovery well plugged Feb., 1940. Gulf discontinued explorations after drilling Swenson 1-C, c nw H&GN 95, Blk 2, Crosby County, 10 miles northwest of Swenson 1-B, elev 2475 ft, logging Mississippi 8050 ft, Ellenburger 8307 ft, abnd 8414 ft.

GLASSCOCK COUNTY

CARTER

8 miles southeast World-McDowell pool. **Discovery Data:** Surface geology, with subsurface from failures, suggesting structural trend parallel with Howard-Glasscock field. Floyd C. Dodson and B. A. Duffy et al's J. G. Carter 1, swc T&P 8, Blk 33, T-3-S, Sept. 12, 1936. **Structure:** Anticline, plugging to southwest. **Elevation:** 2620 ft. **Production Formations:** Permian limestone, 2632-68 ft. **Acreage:** 80. **Production Jan. 1, 1942:** Daily, 15 bbls; cumulative, 28,980 bbls; estimated reserve, 11,000 bbls. **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 29-32. **Deepest Test:** Fleetborn Oil Corp.'s Black Arrow 1, nec T&P 13, Blk 34, T-3-S, mile west by south, abnd 3002 ft. **Outlet:** Trucks. **Remarks:** Second and last producer for pool abandoned, and nearby dry holes discourage further development regular Permian.

WORLD-McDOWELL

Discovery Data: Subsurface geology. Sand and F. G. Lippitt's (was World Oil Co.'s) McDowell 1-C, nw sw ne T&P 21, Blk 34, T-2-S, May 4, 1929. **Structure:** Closed anticline. **Elevation:** 2530 ft. **Production Formations:** Permian limestone 2340 to 2430 ft, average 22-ft penetration. **Acreage:** 100. **Gravity:** 26-28. **Deepest Test:** John I. Moore and Loffland Bros.' McDowell 1, c se ne T&P 22, Blk 34, T-2-S, abnd in Ellenburger 10,470-10,906 ft, with rated flow 17,000 bbls sulphur water (200° F.) daily. Flowed small volume 43-gr oil by heads when acidized at 10,115 ft, 7⅝-in 9470 ft, from Crinoidal, topped at 9471 ft, elevation 2534 ft. **Outlets:** Cosden Petroleum Corp. **Principal Leaseholders:** Letwin-Lippitt and Kallison; Loffland Bros. and John I. Moore Unit. **Remarks:** Total 9 oil producers drilled. Discovery reworked March, 1942, and pumped 68 bbls oil and 70 bbls water on retest. Production data included with Howard-Glasscock District.

GLASSCOCK-HOWARD COUNTY

SETTLES (Shallow)

Howard-Glasscock District. **Discovery Data:** Geology. Continental and Group One Oil Corp. (was Marland & Texon's) W. R. Settles 1-S, c sw W&NW 159, Blk 29, March 8, 1927. **Structure:** Anticline. **Elevation:** 2660 ft. **Producing Formation:** Permian 1201 to 1315 ft, av 36-ft penetration. **Acreage:** 370. **Production Jan. 1, 1941:** Daily 225 bbls; cumulative 1,448,135 bbls; estimated reserves 552,000 bbls. **Producing Wells Jan. 1, 1942:** 37. **Deepest Test:** Discovery deepened in 1928 to water at 3504 ft, recomplete in original pay as 280-bbl pumper. **Gravity:** 33-34. **Outlet:** Cosden Petroleum Corp. **Principal Leaseholder:** Single ownership. **Remarks:** This shallow pool has averaged 3912 bbls per acre and 39,130 bbls per well. No failures; all wells still producing; development concluded Aug., 1937.

HOCKLEY-COCHRAN-TERRY

SLAUGHTER

Discovery Data: Geophysics. Texas Co.'s Bob Slaughter 1, 725 ft from s and 665 ft from w lines Lab 83, League 38, Zavalla CSL, on 6219-acre unitized block, April 17, 1937. **Structure:** Anticline. **Elevation:** 3600 ft. **Production Formations:** Permian (San Andres) 4845 to 5120 ft, average 70-ft penetration. **Acreage:** Developed, 52,000; total, 60,000. **Production Jan. 1, 1942:** Daily, 25,600 bbls; cumulative, 4,854,566 bbls; estimated reserve 281,146,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 849; flowing, 822. **Rigs Running May 1, 1942:** 49. **Gravity:** 31-33. **Deepest Test:** Gulf's Mallet 4, 440 ft from s and 1631 ft from e lines PSL 5, Blk X, Terry County, no shows below regular Permian, abandoned in Clear Fork 6000 ft, situated 2½ miles west of most southerly portion field. **Outlets:** Magnolia, Richardson Pipe Line Co., Texas-New Mexico, South Plains Pipe Line Co., and Stanolind. **Remarks:** Slaughter field will eventually exceed 60,000 productive acres, as the north end of production is without a failure along a 10-mile front. No failures within the field, and only 5 have been drilled within 1½ miles of its productive area. In excess of 200 wells to be drilled.

HOWARD COUNTY

CHALK (Included with Howard-Glasscock)

Discovery Data: Random drilling. Magnolia's (was Owens-Sloan et al's Otis Chalk 1-A, sec ne W&NW 113, Blk 29, April 18, 1926. **Structure:** Anticline. **Production Formations:** Permian sandstone 1545 to 1915 ft, average 23-ft penetration. **Gravity:** 30-32. **Remarks:** Production data under Howard-Glasscock.

CLAY-HYER

Discovery Data: Geology. Continental's (was Fred Hyer et al's) H. R. Clay 1, nw se sw W&NW Sec 139, Blk 29, Nov. 20, 1925. **Structure:** Anticline. **Elevation:** 2670 ft. **Production Formations:** Permian (Yates) 1750 to 1900 ft, average 21-ft penetration. **Gravity:** 31-34. **Outlets:** Cosden Pipe Line Co., Col-Tex Refining Co. **Remarks:** Production data under Howard-Glasscock.

HYMAN (Included with Howard-Glasscock)

Discovery Data: Trend drilling. Magnolia's Harry Hyman 2, 100 ft s of c of se¼ W&NW 88, Blk 29, June 27, 1929. **Structure:** Anticline. **Elevation:** 2370 ft. **Production Formations:** Permian (Yates) sand 1290-1325 ft, av 10-ft penetration. **Gravity:** 31-32. **Deepest Test:** Deep Rock Oil Co.'s Scott-Hyman 1, c se W&NW 88, logged shows that led to shallow discovery, abnd 3605 ft. **Outlet:** Magnolia. **Remarks:** Production data under Howard-Glasscock.

ROBERTS

Discovery Data: Geology. Magnolia Petroleum Co.'s Dora Roberts 1, c se se W&NW 136, Blk 29, Oct. 24, 1927. **Structure:** Anticline. **Production Formations:** Permian 2940 to 3100 ft, av 15-ft penetration. Permian sandy-lime 2310 to 2600 ft, av 116-ft penetration. Permian (Yates) sand 1325 to 1450 ft, av 60-ft penetration. **Gravity:** 27-28. **Remarks:** Production data included with Howard-Glasscock. The 2940-3100 ft limestone zone uncovered by Magnolia's Roberts 1 proved to be most productive of various oil zones in district; discovery produced 217,404 bbls oil first four months.

SETTLES-HENSHAW

Discovery Data: Geology. American-Maracaibo Co.'s (was Henshaw Oil Corp.'s) Settles 1-A, nw se nw T&P 6, Blk 32, T-2-S, August 7, 1928. **Structure:** Anticline. **Production Formations:** Permian sandy-lime 2060 to 2540 ft, av 57-ft penetration. **Gravity:** 32-33. **Remarks:** Production data under Howard-Glasscock.

HOWARD-GLASSCOCK COUNTY

HOWARD-GLASSCOCK DISTRICT

Centering upon Howard-Glasscock County line. Embraces all areas in Howard County, excepting Moore, Snyder, Iatan-East Howard (Denman) pools; Settles (shallow) on county line; and all producing areas in Glasscock County, except Carter pool. Discoveries listed by areas, which have since been consolidated in the compilation of statistics. **Structure:** Anticlines. **Acreage:** Developed 10,800 (scattered; total 14,000 (scattered). **Production Jan. 1, 1942:** Daily 13,150 bbls; cumulative 96,570,310 bbls; estimated reserve 54,930,000 bbls. **Producing Wells Jan. 1, 1942:** 787. **Rigs Running May 1, 1942:** 1. **Gravity:** 26 to 33. **Deepest Test:** Discussed under World-McDowell pool, Glasscock County. **Remarks:** Production of this bi-county district is from lensing and change of porosity conditions in minor domes of accumulation reflected to the surface from an anticlinal high of from 150 to 300 ft on the Big Lime. Initial discovery by Fred Hyer et al Nov. 1925, with one or more new discoveries during each of following 5-year periods: Triple locations drilled in the heart of the Roberts sector. Development of the district has been virtually terminated, with no immediate prospects of expansion of producing area.

MOORE (Harding)

Discovery Data: Subsurface and projected production trend. Continental Oil Co. and Group No. 1 Oil Corp.'s (was Marland Oil Co. et al's) Harding 1, near c se T&P 19, Blk 33, T-1-S, June 12, 1927. **Structure:** Anticline. **Elevation:** 2550 ft. **Production Formations:** Permian 3170 to 3250 ft, av 70-ft penetration. **Acreage:** Developed, 240; total, 600. **Production Jan. 1, 1942:** Daily, 45 bbls; cumulative, 78,258 bbls; estimated reserve, 47,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 6. **Gravity:** 27-28. **Deepest Test:** Continental et al's Brindley 1, c se se T&P 18, second producer for pool, to sulphur water 3510-90 ft, pb as pumper. **Outlets:** Cosden Petroleum Corp., Magnolia. **Remarks:** All wells marginal pumpers, and the outlined producing area not likely to attract additional development.

SNYDER (O'Daniel)

Discovery Data: Geology. Magnolia's (was Choate & Henshaw's) M. H. O'Daniel 1, c se T&P 34, Blk 30, T-1-S, May 12, 1926. **Structure:** Anticline. **Elevation:** 2232 ft. **Production Formations:** Permian 2560 to 2900 ft, average 200-ft penetration. **Acreage:** Developed, 1140; total, 1500. **Production Jan. 1, 1942:** Daily, 950 bbls; cumulative, 2,052,760 bbls; estimated reserve, 2,507,000 bbls. **Producing Wells Jan. 1, 1942:** 97. **Gravity:** 30-31. **Deepest Test:** Magnolia's M. H. O'Daniel 1, nw ne nw T&P 40, Blk 30, T-1-S, abnd 3750 ft. **Outlets:** Col-Tex Refining Co., Glenmore Pipe Line Co. (Cosden), Shell. **Remarks:** Area remained 1-well pool for 5 years until Moore Bros.' T.P. Land Trust 1, ne ne ne T&P 33, Blk 30, 1⅛ miles northwest opened main pool, which was given Snyder name, with potential 213 bbls 2700-2900 ft May 14, 1937. Productive area defined, except to northeast and due to be linked with Iatan-East Howard field. About 90 percent of wells are marginal pumpers.

IRION COUNTY

MERTZON

Discovery Data: Geology. Irion County Drilling Co.'s (was Robt. E. Moore and Martel Kennedy's) Tankersley 1, nw ne sw GC&SF 23, July 23, 1928. **Structure:** Unidentified. **Elevation:** 2350 ft. **Production Formations:** Permian 1340 to 1475 ft, av 5-ft penetration **Acreage:** 300. **Production Jan. 1, 1942:** Daily 10 bbls; cumulative 152,700 bbls; estimated reserve 15,000 bbls. **Producing Wells Jan. 1, 1942:** 4. **Gravity:** 37-38. **Deepest Test:** F. E. Webb et al's J. M. Nutt 1, near sec n⅛ Blk 8, Gonzales CSL, abnd 4-5-29, 3511 ft. **Outlets:** Truck, Mertzon Refining Co. plant. **Principal Leaseholders:** L. R. Pearson et al and Mintex Oil Co. **Remarks:** Ownership of shallow pumpers in this scattered producing area has changed frequently. Surrounding dry holes discourage further explorations.

LOVING COUNTY

MASON

18 miles northwest Wheat field. **Discovery Data:** Subsurface geology. Loving County Oil Co.'s (was Michigan Oil & Gas Co.-Mason Oil Co.'s) Kyle 2, swc ne T&P 20 Blk 55, Tsp 1, Jan. 20, 1937. **Structure:** Anticlinal nosing. **Elevation:** 3080 ft. **Production Formations:** Delaware sandstone 3880 to 3991 ft, av 46-ft penetration. **Acreage:** 240. **Production Jan. 1, 1942:** Daily 190 bbls; cumulative 437,500 bbls; estimated reserve 312,500 bbls. **Producing Wells Jan. 1, 1942:** 9; flowing 5. **Gravity:** 40-41. **Deepest Test:** Argo Oil Corp.'s T. P. Land Trust 1-B, nwc T&P 21, Blk 55, Tsp 1, offsetting production, abnd

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4165 ft. **Outlet:** Mason Pipe Line Co to Pasotex's trunk line. **Remarks:** Failures within and near pool terminated development.

WHEAT

Discovery Well: Sinclair Prairie's (was Lockhart & Co., previously P. V. Petroleum Co.'s) J. J. Wheat 1, 150 ft from e and 1187 ft from s lines W&NW 82, Blk 1, Sept. 1, 1925. **Structure:** Anticlinal nosing. **Elevation:** 2710 ft. **Production Foramtions:** Delaware Mountain lime 4160 to 4390 ft, av 26-ft penetration. **Acreage:** Developed 3600; total 4000. **Production Jan. 1, 1942:** Daily 1100 bbls; cumulative 8,590,000 bbls; estimated reserve 3,410,000 bbls. **Producing Wells Jan. 1, 1942:** 88; flowing 39. **Gravity:** 38-39. **Deepest Test:** Lockhart & Co.'s Wheat 1-H, 990 ft fr ne and se lines H&TC 85, Blk 33, abnd salt water 5068-78 ft, Delaware. **Outlet:** Pasotex Pipe Line Co. **Remarks:** First important oil development in Delaware zone; previous exploratory work in Reeves County yielded limited quantities oil from this horizon, but not sustained any appreciable period. Wheat field wells flow natural exceptionally long; structure sparsely drilled.

LUBBOCK COUNTY

LUBBOCK

35 miles northeast Slaughter field. **Discovery Data:** Geophysics. L. C. Harrison et al's Nairn Est. 1, c se se Sec 25, Blk A, J. H. Gibson Sur, Oct. 30, 1941. **Structure:** Anticline, and on south flank of deep-seated granite ridge, trending east to west. **Elevation:** 3203 ft. **Production Formations:** Permian (Clear Fork) 4870-5002 ft (broken saturation). **Acreage:** 40. **Production Jan. 1, 1942:** Cumulative 1504 bbls; estimated reserve (undetermined). **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 28. **Deepest Test:** L. C. Harrison-Tobe Foster's Steck 1, sec Sec 7, Blk A, J. H. Gibson sur, 3 miles west by north of discovery and nearest test, abnd 5510 ft. **Outlet:** Trucks. **Principal Leaseholders:** L. C. Harrison et al, Texas Pacific Coal & Oil Co.-Seaboard Oil Co. **Remarks:** Involves most northerly production in basin, being 35 miles northeast of Slaughter field, nearest production. Discovery pumped 159 bbls oil, plus 5% water, initial after nitro shot and acid.

MENARD COUNTY

CALLAN (Gas)

6 miles northeast Menard. **Discovery Data:** Random drilling. W. C. Barnett et al's Callan 2, ne sw sw BS&F 1, Dec. 15, 1929. **Structure:** Unidentified. **Elevation:** 2070 ft. **Production Formations:** Pennsylvanian 1250 to 1270 ft. **Acreage:** 40. **Producing Wells Jan. 1, 1942:** Gas 1. **Deepest Test:** J. C. Barnett & Drake's Callan 1, ne sw BS&F Sec 7, Blk 22, abnd 2207 ft, with minor show oil 1856-57 ft. **Outlet:** Rio Gas Co. gas line to Menard. **Principal Leaseholders:** T. A. Harnaday et al. **Remarks:** Initial gas strike abandoned due to lack of market. Production reestablished Jan., 1941, through completion by Harry Baldwin et al, and pipe line outlet followed.

MITCHELL COUNTY

WESTBROOK

Discovery Data: Random drilling. Standard Oil Co. of Texas' (was the California Co., previously Underwriters Producing Co.'s) Abrams 1, nwc T&P 33, Blk 28, T-1-N, Oct., 1920. **Structure:** Anticline. **Elevation:** 2150 ft. **Production Formations:** Permian (Upper Clear Fork) 2440 to 2500 ft. Permian (Basal Clear Fork) 2900-3100 ft, av 60-ft penetration. **Acreage:** Developed, 1700; total, 3000. **Production Jan. 1, 1942:** Daily 500 bbls; cumulative 11,032,000 bbls; estimated reserve 1,168,000 bbls. **Producing Wells Jan. 1, 1942:** 87. **Gravity:** 24 to 26. **Deepest Test:** California Co.'s Morrison 1-A, Acct. 3, sw nw sw T&P 27, Blk 28, T-1-N, southeast edge production, abnd 5305 ft. **Outlet:** Coltex Refining Co. **Principal Leaseholders:** Standard of Texas, Magnolia, Earl Morrison et al, Texas Royalty Oil Co. **Remarks:** This area involves the first sustained commercial production developed in Permian Basin. Discovery completed in upper pay, which did not prove important, and later deepened to lower lime. Structure sparsely drilled due to restricted market during flush stage.

MITCHELL-HOWARD COUNTY

IATAN-EAST HOWARD

Discovery Data: Trend drilling. Magnolia's Mary Foster 1, sec sw T&P 17, Blk 29, T-1-S, August 18, 1925. **Structure:** Anticline. **Elevation:** 2300 ft. **Production Formations:** Permian 2450 to 2900 ft, average 200-ft penetration. **Acreage:** Developed 3900, total 6400. **Production Jan. 1, 1942:** Daily 4300 bbls; cumulative 13,244,115 bbls; estimated reserve 20,156,000 bbls. **Producing Wells Jan. 1, 1942:** 291; flowing 2. **Rigs Running April 15, 1942:** 7. **Gravity:** 29-30. **Deepest Test:** Magnolia's W. W. Watson 2, nwc T&P 20, Blk 29, T-1-S, southeast edge production, abnd July, 1927, without shows, 4154 ft. **Outlets:** Coltex Refining Co., Magnolia, Glenmore Pipe Line Co. **Remarks:** Field originated in Mitchell, greater portion lies northwest in Howard County. Majority wells are marginal pumpers. Nitro shots, ranging up to 2000 quarts, required by most wells to make commercial producers. Sizeable volume additional development scheduled when normal spacing possible, and current trend production to south with prospects of joining Snyder.

NOLAN COUNTY

HOSE

2 miles south by west of Trent. **Discovery Data:** Geology. Metcalf Oil Co.-Peddicord-Green & Owens' C. H. Tipton 1, se nw sw T&P 43, Blk 19, Dec. 20, 1939. **Structure:** Unidentified. **Elevation:** 1975 ft. **Production Formations:** Basal Strawn 5137-71 ft (broken sand). **Acreage:** Developed 40. **Production Jan. 1, 1942:** 2620 bbls (area dormant). **Gravity:** 41. **Deepest Test:** Tex-Harvey Oil Co.'s McRee 1, ½ mi northeast discovery, abnd 5210 ft. **Remarks:** Pool's single producer failed to rate as commercial pumper; plugging operations Sept., 1941, resulted in substantial oil flow for several days after 3½-inch oil string shot off near 4000-ft level. Dry hole offset drilled later without shows.

PECOS COUNTY

ABELL

Discovery Data: Production indicated by earlier deep failure. Stanolind Oil & Gas Co.'s (was Ed Taubert-Jessie McKee and C. J. Siemoneit's) V. W. Crockett 1, 660 ft from w and sw lines 325.4-ac tract, H&TC Sec 4½, Blk 3, Oct. 30, 1940 (McKee sand discovery); Magnolia's Sharp-State 1, Lot 9, H&GN 22, Blk 9, March 27, 1941 (Waddell-Sharp sand discovery); Siemoneit Drilling Co.'s Walsh 1, Lot 11, H&GN 25, Blk 9, Dec. 29, 1941, (discovery Clear Fork); Magnolia's J. F. McKee 1, sec Lot 13, H&GN Sec 25, Blk 9, July 29, 1941 (Ellenburger discovery); Magnolia's Crockett 3, Lot 9, H&TC Se 4½, Blk 3, July 16, 1941 (Simpson Basal Dolomite disovery). **Elevation:** 2390 ft. **Production Formations:** Permian (Holt zone in Clear Fork) 3350-70 ft (single well). Permian (Tubb zone in Clear Fork) 3850-3950 ft (single well). Simpson (McKee sandstone) 4985 to 5500 ft, average 17-ft penetration. Simpson Waddell-Sharp sand) 5441 to 5971 ft, average 11-ft penetration. Simpson (dolomite) 5711-34 ft (single producer). Ellenburger dolomite 5820 to 5934 ft, average 62-ft penetration. **Acreage:** Developed 2000; total 2800. **Production Jan. 1, 1942:** Daily 1800 bbls; cumulative 196,935 bbls; estimated reserve 14,003,000 bbls. **Producing Wells Jan. 1, 1942:** Oil 47, flowing 45, gas 3. **Rigs Running May 1, 1942:** 11. **Gravity:** 40-44. **Deepest Test:** Sinclair Prairie's Grove 1, 330 ft from s and 990 ft from e lines H&GN 26, Blk 9, abnd in Ellenburger 6252-6338 ft. **Outlet:** Texas-New Mexico. **Remarks:** Abell involves first area in district to account for important production in Simpson, upper Ordovician. Producing area partially defined for Simpson production to east, north and west, with important extensions possible to south and on a strike towards Apco deep pool. Permian zones are erratic.

APCO

Discovery Data: Geology and geophysics. Anderson-Prichard Oil Corp. and Monte Warner's J. S. Masterson 1, c s¼ of n¼ H&GN 104, Blk 10, April 30, 1939. **Structure:** Anticline. **Elevation:** 2450 ft. **Production Formations:** Ellenburger dolomite 4488-4793 ft, av 71-ft penetration. **Acreage:** Developed 440; total 900. **Production Jan. 1, 1942:** Daily 450 bbls; cumulative 160,397 bbls; estimated reserve 13,040,000 bbls. **Producing Wells Jan. 1, 1942:** 11, flowing 10. **Rigs Running May 1, 1942:** 3. **Gravity:** 39-42. **Deepest Test:** Humble's Shearer 2, c s¼ of s¼ H&GN 99, Blk 10, offsetting production, top Ellenburger 4710 ft, abnd cherty-dolomite 5356 ft. **Outlet:** Comanche Pipe Line Corp. **Remarks:** Market for this high-gravity crude has been restricted due to subnormal octane rating. Area embraces 2 sectors, currently ¾-mile apart. Five failures defined production in north sector, and 2 failures on southwest edge structure.

BYRNE-MESSENGER

Discovery Data: Random drilling. McCarty Oil Co. (was Quinby Oil Co.'s) E. W. Bennett 2, c nw¼ GC&SF 592, Blk 105, Jan., 1927. **Structure:** Anticline. **Elevation:** 2515 ft. **Producing Formation:** Permian sandy-lime 1120 to 1380 ft, av 30-ft penetration. **Acreage:** 600. **Production:** Discussed under Pecos Valley (Low Gravity). **Deepest Test:** J. E. Redmond-J. L. Greene & Paul L. Davis' Iowa Realty Co. 1, c e¼ of w¼ H&GN 29, Blk 10, northwest edge shallow production, elevation 2526 ft, top detrital 5340 ft, top Simpson 5370 ft, abnd in Simpson 6010 ft. **Gravity:** 33-38. **Outlets:** Aero Pipe Line Co., Comanche Pipe Line Co. **Remarks:** Area officially identified as Pecos Valley Low-Gravity pool, but is isolated from same, and shallow development scattered over portions of 5 sections. Heiner pool, consisting of small Ellenburger producer, ½-mile south of shallow production.

CHANCELLOR

22 miles west of Fort Stockton. **Discovery Data:** Geology and core drill. Pure Oil Co.'s T. P. Land Trust 1-A, c sw sw T&P 31, Blk 49, Tsp. 10, March 25, 1942. **Structure:** Anticline. **Elevation:** 3277 ft. **Production Formations:** Delaware 5082-5274 ft (broken saturation) main pay upper 30 ft. **Acreage:** 40. **Estimated Reserve:** 100,000 bbls. **Producing Wells May 1, 1942:** 1, flowing. **Gravity:** 37.5. **Deepest Test:** Discovery carried to 6001 ft, gray sandstone. **Outlet:** Trucks to Noelke Pipe Line Co., 30-mile haul. **Principal Leaseholders:** Pure and Humble. **Remarks:** Discovery involves sole Delaware producer in county and most southerly for district. Flowed 62 bbls initial after nitro shots and acid. Additional explorations scheduled.

CONRY-DAVIS

3 miles northeast Buena Vista. **Discovery Data:** Geophysics. Stanolind Oil & Gas Co.'s Conry-Davis 1, Center Lot 8, H&GN 31, Blk 9, July 2, 1941 (deep pay); Magnolia's Geo. T. Abell's Myrick-State 1-B, south offset discovery and on Myrick Vacancy sur, Blk CM-1, shallow discovery, Dec. 1, 1941. **Structure:** Anticline. **Elevation:** 2375 ft. **Production Formations:** Permian (Clear Fork) 3710 to 3960 ft, average 58-ft penetration. Permian (San Andres) 2250 to 2305 ft, av 37-ft penetration. **Acreage:** 240. **Production Jan. 1, 1942:** Daily 120 bbls; cumulative 14,342 bbls; estimated reserve 1,200,000 bbls. **Producing Wells Jan. 1, 1942:** 7 flowing. **Gravity:** 32 to 37. **Deepest Test:** Discovery to granite 5740-45 ft, no Simpson, topped detrital 4815 ft and Ellenburger 4835 ft, pb and completed through perforations 3710-3810 ft. **Outlet:** Texas-New Mexico Pipe Line Co. **Principal Leaseholders:** Geo. Abell et al, Magnolia, Sinclair Prairie, Skelly, Siemoneit Drilling Co., Stanolind, Texas Co. **Remarks:** Both pay zones erratic, and three failures south, east and north of pool, which is 3¾ miles southeast of Abell production. Officially designated as "Abell Permian." Only 1 completion shallow pay prior to 1942, and it failed produce in Clear Fork.

DOWNS (Gas)

5 miles west of Pecos Valley field. **Discovery Data:** Geology. H. L. Cain and Sam G. Dunn's M. J. Downs-Sun 1, 1787 ft from sw and 853 ft from se lines H&GN 105, Blk 8, Sept. 5, 1941. **Structure:** Anticline. **Elevation:** 2469 ft. **Production Formations:** Permian (Yates sand) 1412 to 1506 ft (broken pay). **Acreage:** 40. **Producing Wells Jan. 1, 1942:** Gas, 1. **Deepest Test:** Plymouth Oil Co.'s Levy 1, 467 ft out swc H&GN 104, blk 8, base Permian 6075 ft, elev 2473 ft, abnd in hard chert 6473 ft. **Remarks:** Discovery tested 900,000 ft dry gas initial.

FROMME

East flank of Apco Deep. **Discovery Data:** Trend drilling. Superior Oil Corp. (Tulsa's) Crockett-Skelly 1, 330 ft se and 330 ft sw of w

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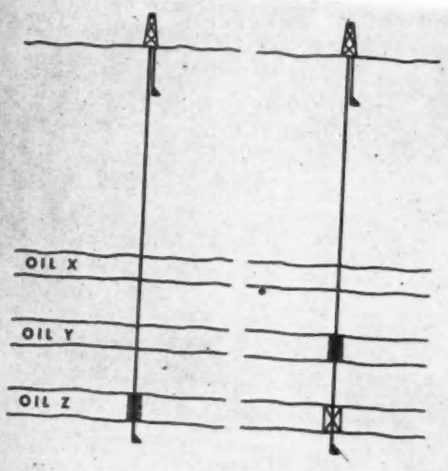

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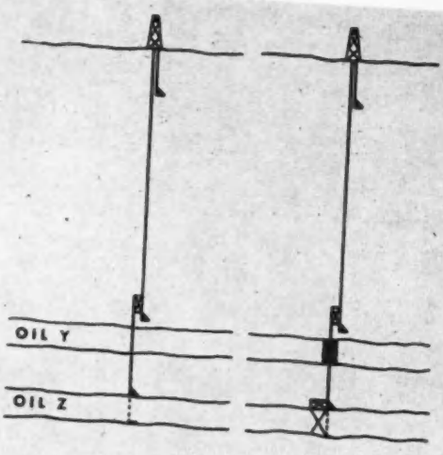
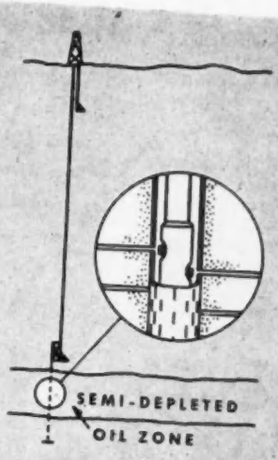


PLUG-BACK OPERATIONS

Many wells classed as off production have really passed through profitable sands cased off on the way down. A Radioactivity Log accurately locates potential horizons through casing. Gun Perforate these zones for production. Plug-back operations alone have increased immeasurably the nation's reserves of previously unrecoverable oil.



SEMI-DEPLETED ZONES

Low production is often due to clogged screens or liners. Gun Perforating reopens old perforations and provides new drainage channels to restore normal production. For acid treatment the perforator projectile makes a funnel-shaped opening in sand or limestone formation which is completely filled with cracks and fractures providing a substantial increase in exposed area.

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corner H&GN 106, blk 10, but in TC 5, blk 110, June 30, 1939 (1400-ft pay); Culbertson & Irwin's Ed Fromme 4, 330 ft out s corner w¼ H&GN 106, blk 10, Feb. 26, 1940 (1600-ft pay). **Structure:** Anticline. **Elevation:** 2440 ft. **Producing Formation:** Permian sandy-lime 1390 to 1460 ft, average penetration 23 ft. Permian sandy-lime 1632 to 1640 ft, average penetration 8 ft. **Acreage:** Developed, 160; total 200. **Production Jan. 1, 1942:** Daily, 180 bbls; cumulative, 72,002 bbls; estimated reserve, 568,000 bbls. **Producing Wells Jan. 1, 1942:** 10; flowing 8. **Deepest Test:** Discussed under Apco. **Gravity:** 29-31. Outlet: Comanche Pipe Line Co. to Atlantic Pipe Line Co. **Principal Leaseholders:** W. H. Burleson et al, Cordova Union Oil Corp., Culbertson & Irwin, E. G. Rodman and Superior Oil Corp. **Remarks:** This dual-pay shallow area is on east flank of Apco-Warner Ellenburger pool. Single well in 1600-ft pay prior to 1942. J. E. Whiteside et al's Fromme 1, s corner of n¼ H&GN 106, blk 10, offset the most northerly Fromme pool well, made 10 bbls, initial after acid at 1205-1478 ft, March 21, 1936, but production not sustained.

GRASSROOTS

Discovery Data: J. H. Finney et al's (was O. E. Schkade et al's) C. S. Lehman-Cities Service 1, 990 ft from w and 2450 ft from s lines H&GN 107, blk 8, Dec. 20, 1939. **Type Structure:** Anticline. **Elevation:** 2484 ft. **Production Formations:** Permian sand 43 to 70 ft. **Acreage:** 40. **Production Data Jan. 1, 1942:** Cumulative, 370 bbls; estimated reserve, unimportant. **Producing Wells Jan. 1, 1942:** 3. **Gravity:** 12. **Deepest Test:** H. L. Cain et al's Lehman-Cities Service 1, ne nw sw H&GN 107, blk 8, abnd in water 1685-86 ft, having passed up shallow pay that was proved through followup test. **Outlet:** Trucks. **Principal Leaseholders:** J. H. Finney and R. C. Webster et al. **Remarks:** Shallowest production in district, and used locally as road oil due to low gravity. Owners contemplate sinking shafts as substitute for drilling of holes.

HEINER

Nine mi w by s Apco pool. **Discovery Data:** Subsurface and geophysics. Culbertson & Irwin's Heiner 1, c ne ne GC&SF 589, March 25, 1941. **Structure:** Anticline. **Elevation:** 2549 ft. **Production Formations:** Ellenburger dolomite 5382-5509 ft (broken saturation). **Acreage:** 40. **Production Jan. 1, 1942:** Daily, 10 bbls; cumulative, 3030 bbls; estimated reserve 25,000 bbls. **Producing Wells Jan. 1, 1942:** 1, flowing. **Gravity:** 35-36. **Deepest Test:** Discovery carried to sulphur water 5639-65 ft. **Outlets:** Trucks. **Remarks:** No followup development scheduled, as discovery flowed on gas-lift 37 bbl oil, plus 2 percent water, initial on ¾-in after 13,500 gals acid. Unusual feature is absence of production in upper Ellenburger, topped at 5128 ft.

JAMISON-POLLARD (P. V. Deep)

Within Pecos Valley shallow pool. **Discovery Data:** Deep explorations. T. E. Jamison & Chas. Pollard's (was Ward-Pecos Petroleum Corp.'s) Pecos Valley Oil Co. 6-DE, 150 ft from ne and 1049 ft fram se lines of ne½ of s¼ H&TC 36, blk 3, Sept. 1940. **Structure:** Anticline. **Elevation:** 2432 ft. **Production Formations:** Permian limestone 2037-41 ft. **Acreage:** 40. **Production Jan. 1, 1942:** Daily, 75 bbls; cumulative, 21,200 bbls; estimated reserve, 98,800 bbls. **Producing Wells Jan. 1, 1942:** 1, flowing. **Rigs Running May 1, 1942:** 1. **Gravity:** 24.4. **Deepest Test:** M. H. Black et al's Pecos Valley 2, 1145 ft from se and sw lines H&TC 34, missed new pay, abnd 2280 ft. **Outlets:** Comanche Pipe Line Co. to Atlantic. **Remarks:** This single well given separate pool designation although within Pecos Valley low-gravity oil area. Discovery flowed 193 bbls oil, plus 90 percent water, after treating thin pay with hot acid, thus gaining exemption from production holidays. Failure of nearby tests indicate new pay either from crevice or freak.

LEHN

4½ mi sw of Buena Vista. **Discovery Data:** Geology and trend. H. L. Cain and W. E. Keeney's M. M. Lehn-Texaco 1, 330 ft from ne and se lines H&GN 71, blk 10, June 21, 1939. **Structure:** Anticline. **Elevation:** 2440 ft. **Production Formations:** Permian sandy-lime 1640 to 1758 ft, average 37 ft penetration. **Acreage:** 740. **Production Jan. 1, 1942:** Daily, 500 bbls; cumulative, 291,500 bbls; estimated reserve 3,408,500 bbls. **Producing Wells Jan. 1, 1942:** 48; flowing, 43. **Rigs Running April 15, 1942:** 1. **Gravity:** 32-34. **Deepest Test:** Carl S. Leidecker et al's Iowa Realty Co. 1, east corner of s¼ of n¼ H&GN 73, blk 10, show o&w 1714-19 ft, abnd May 25, 1938, hfw and abnd 2095 ft. **Outlets:** Noelke Pipe Line Co. **Principal Leaseholders:** Anderson & Campbell, Burk Royalty Co., C-K Drilling Co., Don Oil Co., Louise Duncan et al, W. E. Keeney et al, Rockdale Oil Co., Sahara Oil Corp. and Samwan Oil Co. **Remarks:** Area in line for additional development when OPC spacing restrictions lifted, and extensions likely. Production possibilities of area revealed by Leidecker et al's Iowa 1, old dry hole. Cumulative production includes 2 small pumpers in O'Neil pool.

MASTERSON

Discovery Well: General Crude Oil Co.'s (was Cranfill-Reynolds; Sherwood B. Owens-Monte Warner's) J. Masterson 1-A, 330 ft out of south corner H&GN 104, blk 10, Dec. 16, 1929. **Structure:** Anticline. **Elevation:** 2420 ft. **Production Formations:** Permian 1175 to 1490 ft, average penetration 49 ft. **Acreage:** 650. **Production Jan. 1, 1942:** Daily, 180 bbls; cumulative, 942,700 bbls; estimated reserve, 737,300 bbls. **Producing Wells Jan. 1, 1942:** 24. **Gravity:** 35-36. **Deepest Test:** Discussed under Apco pool, which is on related structure. **Outlets:** Comanche Pipe Line Corp. **Principal Leaseholders:** Aero Gas Ref. Co., M. H. Black et al, Burk Royalty Co., Culbertson & Irwin, Pecos-Onondaga Corp. **Remarks:** Area centers upon Apco deep pool, and shallow development about concluded.

NETTERVILLE

Near intersection Reeves and Ward Counties. **Discovery Data:** Surface geology. Superior Oil Corp.'s (was Tex-Mex Petroleum Corp.'s) G. W. Walling 1, 5610 ft n and 330 ft e of swc H&GN 59, blk 8, Sept. 28, 1934. **Structure:** Anticline. **Elevation:** 2450 ft. **Production Formations:** Permian sandy-lime 2085 to 2360 ft, average 105 ft penetration. **Acreage:** 200. **Production Jan. 1, 1942:** Daily, 90 bbls; cumulative, 368,427 bbls; estimated reserve 132,000 bbls. **Producing Wells Jan. 1, 1942:** 20; flowing, 15. **Gravity:** 33-35. **Outlets:** Wickett Pipe Line Co. **Principal Leaseholders:** Superior Oil Corp., Chas. E. Marsh, II, Worth Drilling Co. **Remarks:** Wells have small initial, but exceptionally long flowing life.

O'NEIL

5½ mi sw Buena Vista; 1⅞ mi se Lehn pool. **Discovery Data:** Geology. Robert E. Mitchell et al's (was M. D. O'Quinn-Tex Patillo's) P. E. O'Neil 1, c s¼ of s¼ H&GN 74, blk 10, Nov. 30, 1940. **Structure:** Anticline. **Elevation:** 2443 ft. **Production Formations:** Permian limestone 1607 to 1698 ft, average 64 ft penetration. **Acreage:** 40. **Production:** Included with Lehn. **Producing Wells May 1, 1942:** 2. **Rigs Running May 1, 1942:** 1. **Gravity:** 34. **Deepest Test:** Wray Richards et al's Robinson-Shell 1, 467 ft from ne and nw lines H&GN 68, blk 10, south offset to discovery, abnd hfw 2000-05 ft. **Outlets:** Trucks. **Principal Leaseholders:** Robt. E. Mitchell, M. D. O'Quinn et al, Skelly. **Remarks:** This 2-well pool included with Lehn on official proration schedule, although isolated from same by failures. Discovery was scheduled Ordovician project.

PECOS VALLEY (Low Gravity)

Discovery Data: Surface geology. Pecos Crude Oil Purchasing Co.'s (was Pecos Valley Oil Co.'s) Pecos Valley Oil Co. 1, c w¼ H&GN 22, blk 10, Nov. 20, 1928. **Structure:** Anticline. **Elevation:** 2430 ft. **Production Formations:** Permian sandy-lime 1500 to 1690 ft, average 62 ft penetration. **Acreage:** 2700. **Production Jan. 1, 1942:** Daily, 600 bbls; cumulative, 1,633,311 bbls; estimated reserve 3,767,000 bbls. **Producing Wells Jan. 1, 1942:** 77; flowing, 27. **Gravity:** 25-29. **Deepest Test:** Southern Crude Oil Pur. Co.'s Scharff-Blackman 1, H&TC sec 38, blk 3, north end pool, tested 1 bbl oil and 1 bbl water hourly 2179-85 ft, abnd hfw 2542-50 ft. **Outlets:** Comanche Pipe Line Corp. **Remarks:** Production data includes Byrne-Messenger pool, situated to southwest.

RICHARDS (Courtney-Pryor)

Discovery Data: Geology. Phillips Petroleum Co.'s W. Courtney-Pryor 1, 440 ft out nwc TM 78, blk ow, May 22, 1929. **Elevation:** 2950 ft. **Production Formations:** Permian sandy-lime 1345-67 ft, broken pay. **Acreage:** 80. **Production Jan. 1, 1942:** Dormant; cumulative, 29,705 bbls. **Gravity:** 23-24. **Deepest Test:** Discovery to 4376 ft, then abnd Oct. 10, 1929. **Outlet:** Trucks. **Principal Leaseholders:** Lum Wadsworth et al. **Remarks:** Ownership of these small pumpers changed frequently. Pool credited with 2 inactive pumpers end year. Wadsworth et al worked over 2 wells March, 1942, as 4-bbl pumpers.

ROWAN-TONG

Discovery Data: Random drilling. Jack V. Rowan and Alvin C. Hope's J. A. McDonald 1, 1170 ft from n and 2490 ft from e lines H&GN 46, blk 12, August 27, 1929. **Structure:** Local feature on deep-seated granite ridge. **Elevation:** 2480 ft. **Production Formations:** Permian sandy-lime 1600-1611 ft. **Acreage:** 40. **Production Jan. 1, 1930:** cumulative, 2000 bbls. **Rigs Running May 1, 1942:** 1 (deep test). **Gravity:** 28-29. **Outlets:** The Texas Pipe Line Co. built line from McCamey, but never operated same. **Principal Leaseholders:** M. D. Bryant et al, Landreth Co. and Gulf-L. H. Wentz. **Remarks:** Discovery blew in flowing above 100 bbls oil hourly. Half interest in well and supporting block sold promptly to Independent Oil & Gas Co. for $1,000,000, including $250,000 cash. Initial well exhausted oil yield despite workover and deepening operations within three months. Nearby followup tests proved dry. Area currently rates as outstanding prospect for Ellenburger production.

SHEARER

Northeast flank of Apco deep pool. **Discovery Data:** Trend drilling. W. H. Street et al's W. T. Shearer-Texaco 1, 150 ft from sw and se lines H&GN sec 103, blk 10, July 20, 1938 (1400 ft pay); Geo. Davis and M. L. White's Fromme 1, 2490 ft from ne and 150 ft from nw lines of w¼ of n¼ H&GN 110, blk 10, (1800 ft pay), Nov. 29, 1940. **Structure:** Anticline. **Elevation:** 2400 ft. **Producing Formations:** Permian sandy-lime 1390 to 1507 ft, average 30 ft penetration. Permian sandy-lime 1865 to 1900 ft, average 26 ft penetration. **Acreage:** 350. **Production Jan. 1, 1942:** 660 bbls; cumulative, 1,030,907 bbls; estimated reserve, 369,000 bbls. **Producing Wells Jan. 1, 1942:** 47; flowing, 27. **Deepest Test:** Discussed under Apco. **Gravity:** 34-36. **Outlet:** Comanche Pipe Line Co. **Principal Leaseholders:** Childress Royalty Co., Davis & White, Oliver & Cowden, Sahara Oil Corp., W. H. Street. **Remarks:** Only 2 producers in 1800-ft zone; both small pumpers.

TAYLOR-LINK

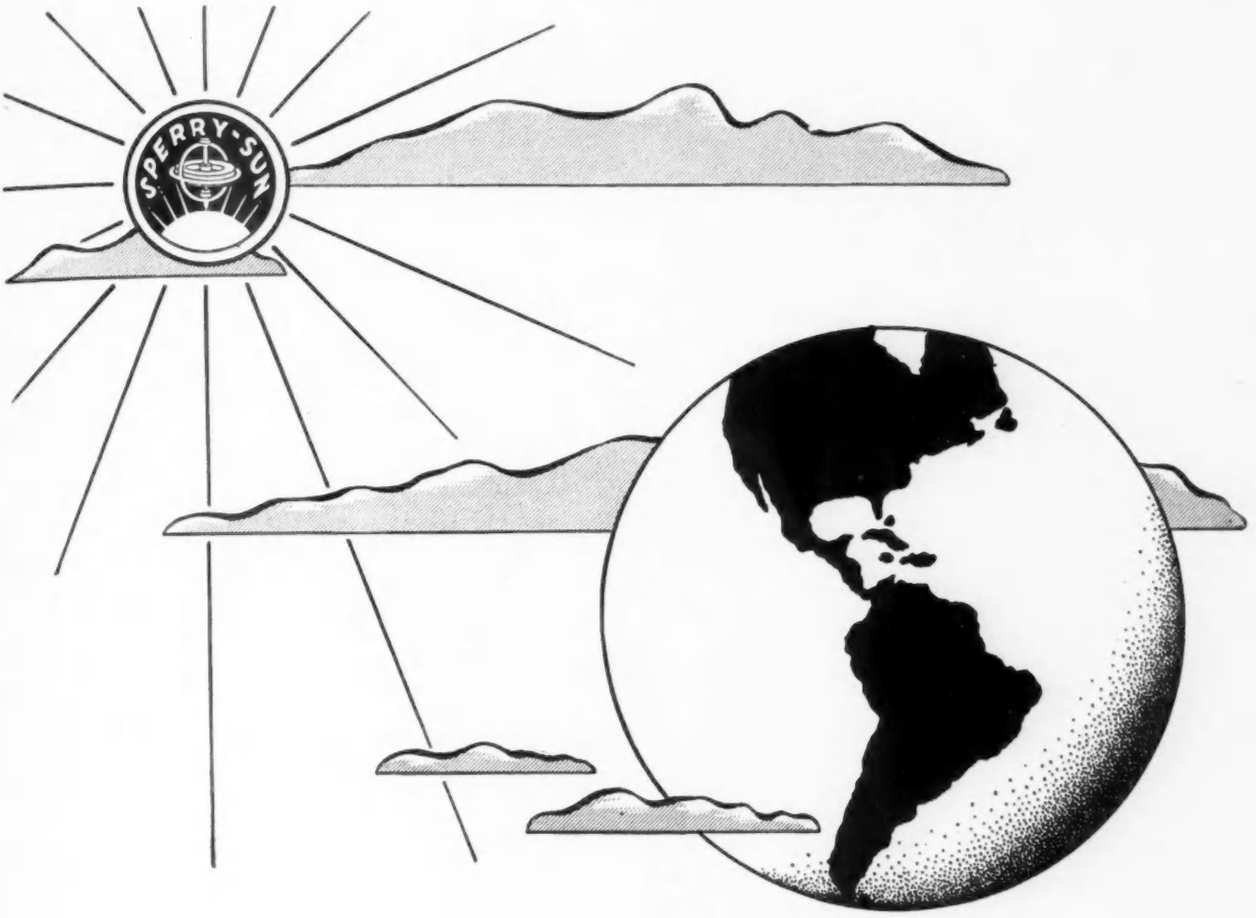
Discovery Data: Geology. Lee Petroleum Corp.'s (was Taylor-Link Oil Co.'s) University 1, 533 ft n and 1040 ft e of swc sec 30, blk 16, June 15, 1929. **Structure:** Anticline. **Elevation:** 2600 ft. **Production Formations:** Permian (Yates sandstone) 950 to 1000 ft, average 25 ft penetration. Permian (limestone) 1350 to 1400 ft, average 30 ft penetration. Permian (limestone) 1580 to 1780 ft, average 50 ft penetration. **Acreage:** Developed, 1750; total, 2500. **Production Jan. 1, 1942:** Daily, 2350 bbls; cumulative, 7,093,720 bbls; estimated reserve 4,900,000 bbls. **Producing Wells Jan. 1, 1942:** 109; flowing, 6. **Rigs Running April 15, 1942:** 8. **Gravity:** 29 to 33. **Deepest Test:** Continental's University 2-A-a, nw ne nw sec 6, blk 17, abnd Jan. 18, 1930, 2186 ft. **Outlets:** Shell. **Remarks:** Shallow Yates oil zone confined to about 460 acres, and operators have avoided twin drilling. Nominal amount development in store for field, with further extensions due to northeast. Total of 134 producers have been drilled. Single producer completed by Buell-Hagan et al June, 1929, 2½ mi s of Taylor-Link, but dry holes isolated same.

TOBARG

West flank of Yates field. **Discovery Data:** Trend drilling from Yates field and core-drill data. Cardinal Oil Co.'s Mrs. F. E. Tobarg 1, 341 ft out of sec w½ sec 539, Arnold & Barrett sur A-3, August 24, 1929. **Structure:** Shallow accumulation on flank Yates field dome. **Elevation:** 2300 to 2500 ft. **Production Formations:** Cretaceous sandstone 320 to 600 ft, average 32 ft penetration. **Acreage:** 1400. **Production Data Jan. 1, 1942:** Daily, 1200 bbls; cumulative, 6,976,571 bbls; estimated reserve, 3,024,000 bbls. **Producing Wells Jan. 1, 1942:** 252; flowing, 2. **Gravity:** 19-21. **Outlets:** Shell. **Principal Leaseholders:** Phil Broun et al, Cardinal Oil Co., Childress Royalty Co., Corvette Oil Corp., Ohio and Stanolind.

WALKER

Discovery Data: Geology and trend. Childress Royalty Co.'s (was R. L. Walker et al's) White-Baker 1, NWc se GC&SF 86, blk 194, April 7, 1940. **Structure:** Anticline. **Elevation:** 3000 ft. **Production For-**



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mations: Permian sandy-lime 1925 to 2120 ft, average 22 ft penetration. **Acreage:** Developed, 840; total, 1300. **Production Jan. 1, 1942:** Daily, 850 bbls; cumulative, 164,991 bbls; estimated reserve, 2,355,000 bbls. **Producing Wells Jan. 1, 1942:** 40; flowing, 32. **Rigs Running April 15, 1942:** 2. **Gravity:** 32-33. **Deepest Test:** Gulf's White-Baker 1, sw sw se GC&SF 85, blk 194, mi ne of production, abnd 4280 ft, Aug. 28, 1925. **Outlets:** Shasta Pipe Line Co.'s 8½-mi 2-in delivers to Shell's Taylor-Link field booster station. **Remarks:** Area due for considerable additional development in view of high percentage of flowing wells, and may eventually link with Taylor-Link.

WENTZ

5½ mi se of Girvin. **Discovery Data:** Geology and geophysics. Gulf Oil Corp. and L. H. Wentz's L. H. Millar 2, c nw se H&GN 43, blk 11, Dec. 27, 1941. **Structure:** Anticline. **Elevation:** 2534 ft. **Production Formations:** Ellenburger dolomite 4146-4447 ft. **Acreage:** 40. **Production Jan. 1, 1942:** Daily, 50 bbls; cumulative, 1600 bbls; estimated reserve, 100,000 bbls. **Producing Wells Jan. 1, 1942:** 1, flowing. **Rigs Running May 1, 1942:** 1. **Gravity:** 33-34. **Deepest Test:** Gulf and Wentz's Millar 1, swc H&GN 39, blk 11, 1¼ mi s of discovery (Ordovician section cutout), logged 36-ft detrital zone, then granite 4532 ft, abnd 9-2-41 at 4538 ft. **Outlets:** Trucks. **Principal Leaseholders:** Discovery lease embraces 7071 acres. **Remarks:** Discovery excluded estimated flow 15,000,000 ft wet gas in upper Ellenburger, topped 4146 ft, in cementing 7⅝-in 4282 ft, and entered Cambrian sandstone at 4447 ft followed by schist 4464-93½ ft, then plugged back.

WESTERMAN (Gas)

2 mi sw of Fort Stockton. **Discovery Data:** Geology. E. W. Francis et al's Westerman 1-a, 350 ft s and 1650 ft e of swc of T&StL 28, blk 146, but in sec 1, Rubian Phares sur, Feb. 2, 1938. **Structure:** Anticline. **Elevation:** 3150 ft. **Production Formations:** Permian sandy-lime 2820-2945 ft, broken pay. **Acreage:** 40. **Producing Wells Jan. 1, 1942:** Gas, 1. **Deepest Test:** E. R. Minshall et al's Haynie 1, sw sw nw T&StL 28, blk 146, mi n of discovery, abnd hfw 3277-78 ft. **Outlet:** Southern Union Utilities Co. **Remarks:** Discovery made initial flow 9,000,000 ft wet gas, td 2978 ft; deepened account yield dropped 50 percent, with trace oil, encountered sulphur water 2984-85 ft, plugged back and re-complete May 25, 1938, rated 15,000,000 ft daily.

WHITE-BAKER (Oil and Gas)

Discovery Data: Subsurface geology. Gulf's White-Baker 3, sec n½ TC Ry 4, blk 204, Dec. 31, 1934, initial oil well at 1824-26 ft; Cardinal Oil Co.'s White-Baker 1, lse 2, 2490 ft from w and 150 ft from s lines w½ HE&WT 45, blk Z, first gas 1540-65 ft, June 12, 1935. **Structure:** Anticline. **Elevation:** 2750 ft. **Production Formations:** Permian sandy-lime 1650 to 1750 ft, average 35 ft penetration. **Acreage:** Developed, 480; total, 1100. **Production Jan. 1, 1942:** Daily, 300 bbls; cumulative, 172,136 bbls; estimated reserve 1,748,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 18, all flowing; gas, 4. **Gravity:** 30-32. **Deepest Test:** Humble's White-Baker 1, c ne TC Ry. 44, blk Z, elev 2715 ft, Simpson 8040-9385 ft, abnd in Ellenburger 9385-9811 ft. **Oil Outlets:** Cardinal Oil Co.'s 10-mi 2-in to Shell's line. **Gas Outlet:** Cardinal Oil Co. **Principal Leaseholders:** Cardinal Oil Co. controls area. **Remarks:** Considerable development in store for area, which is marked by ability of wells to flow for long period. Bulk of gassers completed in oil zone, and range up to 16,000,000 ft initial. Cardinal's White-Baker 1-36, se se sw TC Ry. 36, blk Z, 3 mi sw of oil discovery, completed April, 1938, opening main pool.

YATES (South)

2½ mi se Yates field. **Discovery Data:** Geology. Texon Oil & Gas Co.'s (was K. Kimberlin et al's) I. G. Yates 1, center I&GN 55, blk 1, Feb. 15, 1927. **Structure:** Unidentified. **Elevation:** 2250 ft. **Production Formations:** Permian sandy-lime 1268-73 ft. **Acreage:** 40. **Production to 1937:** 2157 bbls. **Deepest Test:** Texon's Yates 2, near c nw sec 55, drilled to sulphur water at 1740 ft, then plugged back for small flow in discovery pay. **Remarks:** Discovery property turned to independent group Sept., 1936, and after drilling failure they abandoned all operations.

PECOS-CROCKETT

YATES

Discovery Data: Surface geology. Ohio Oil Co.'s (was Mid-Kansas O&G Co.-Transcontinental Oil Co.'s) I. G. Yates 1, 2900 ft w of swc I&GN 60, blk 1, but in 2485½-ac vacancy tract, Yates sur A-8195, Oct. 28, 1926. **Structure:** Broad, elliptical, anticlinal dome. **Elevation:** 2415 to 2950 ft. **Production Formations:** Permian sand (Yates) and lime 830 to 1900 ft, average 136 ft penetration. **Acreage:** Developed, 19,200; total, 20,000. **Production Jan. 1, 1942:** Daily, 15,700 bbls; cumulative, 260,079,187 bbls; estimated reserve, 407,944,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 572; flowing, 515. **Gravity:** 28-30. **Deepest Test:** Moore Exploration Co.-Olson Oil Co.'s Halff 2-C, 467 ft from s and 1638 ft from e lines I&GN 68, blk 1, Crockett County, 3½ mi e Yates field, abnd Ellenburger 6740-6977 ft. No tests below 2000 ft in Yates field. **Outlets:** Gulf, Humble, Illinois Pipe Line Co., Shell and Texas-New Mexico. **Remarks:** Voluntary proration adopted Oct. 1927, after field produced 914,492 bbls. Yates is the banner field in the Permian Basin, and is considered excellent prospect for deeper production in Lower Permian and possibly Ordovician. Some wells have gauged in excess of 5000 bbls oil per hour natural, and record attained Dec. 1934 by Standard of Cal.'s Reed 3, which was officially rated at 7005 bbls oil hourly, or daily rate 168,120 bbls from 1238-1400 ft. No appreciable volume development pending in regular pays.

PECOS-WARD COUNTY

PAYTON

Discovery Data: Geology and trend. British-American Oil Producing Co.'s (was J. J. Dorr et al's) Payton 1, se nw nw H&GN 99, Blk 8, Dec. 8, 1937. **Structure:** Anticline. **Elevation:** 2430 ft. **Production Formations:** Yates sandstone (Permian) 1920 to 2150 ft, av 63-ft penetration. **Acreage:** 1100. **Production Jan. 1, 1942:** Daily 1100 bbls; cumulative 2,538,653 bbls; estimated reserve 2,411,000 bbls. **Producing Wells Jan. 1, 1942:** 128; flowing 53. **Gravity:** 32-37. **Deepest Test:** Roeser-Pendleton's Johnson 2-8, 330 ft from nw & sw lines 200-ac lease, H&TC 8, Blk 34, abnd hfw 3179-98 ft. **Outlet:** Atlantic. **Principal Leaseholders:** Allard et al, Brandor Pet. Co., British-American, Columbia O&G Co., Ja-Chel Oil Co., H. Jaffe et al, Jamison & Pollard, W. P. Luse & Ice, Robt. Mitchell et al, Ohio Oil Co., Pantex Oil Corp., Roeser & Pendleton, Sahara Oil Corp., Sun Oil Co., Sunset Oil Co. Texoil Producers, Inc., and Western Well Service Corp. **Remarks:** Majority of wells submarginal, and 15 of 143 completed producers off production.

PECOS VALLEY (High Gravity)

Discovery Data: Trend drilling. Union Oil & Mining Co.'s First Nat'l Bank (Fort Stockton) 1, 490 ft south of Pecos River and 330 ft east of north-south center line of H&GN 6, Blk 9, April 6, 1939. **Structure:** Anticline. **Elevation:** 2410 ft. **Production Formations:** Permian sandy-lime 1730 to 1913 ft, av 49-ft penetration. **Acreage:** 1000. **Production Jan. 1, 1942:** Daily 800 bbls; cumulative 523,723 bbls; estimated reserve 3,476,000 bbls. **Producing Wells Jan. 1, 1942:** 101; flowing 43. **Gravity:** 36-39. **Deepest Test:** Peerless O&G Co.'s F. M. White 1, 330 ft fr nw and sw lines Tr. 11, H&TC 36, Blk 1, Ward County, ½-mile west production, abnd sul water 2255-76 ft. **Outlets:** Comanche Pipe Line Co. to Atlantic Pipe Line Co.

REAGAN COUNTY

BARNHART

8 miles southeast Big Lake. **Discovery Data:** Geophysics. Amerada's University 1-R-A, c se ne Sec 3, blk 48, Sept. 1, 1941. **Structure:** Anticline. **Elevation:** 2730 ft. **Production Formations:** Ellenburger dolomite 9010-9155 ft, av 50-ft penetration. **Acreage:** Developed 80; total 160. **Production Data: Jan. 1, 1942:** Daily 215 bbls; cumulative 14,350 bbls; estimated reserve 300,000 bbls. **Producing Wells Jan. 1, 1942:** 3; flowing 2. **Rigs Running April 15, 1942:** 4. **Gravity:** 44-45. **Deepest Test:** Discovery to extremely hard cherty-lime 9294 ft, 334 ft in Ellenburger. **Outlet:** Truck to Humble's Kemper station. **Principal Leaseholders:** Amerada, Humble, M. H. Reed et al, Tide Water Associated Oil Co. **Remarks:** Deepest producing area in Permian Basin, and most easterly Ellenburger production, and isolated from shallow. Late developments confirm major producing area, down-dip wells registering largest initial. Valuable lube stock.

BIG LAKE

Discovery Data: Random drilling. Big Lake Oil Co.'s (was Texon Oil & Land Co.'s) University 1, c sw ne Sec 2, Blk 2, discovery for 3000-ft pay, May 28, 1923; University 17, c ne Sec 1, Blk 2, discovery for 2400-ft pay, Feb. 9, 1925; University 19-C, 392 ft from s and 1928 ft from w lines Sec 24, Blk 9, discovery 4300-ft pay, Feb. 16, 1942. **Structure:** Domal high. **Elevation:** 2700 ft. **Production Formations:** Permian sandy-lime 2430 to 2480 ft, av 7-ft penetration. Permian 2860 to 3100 ft, average 23-ft penetration, main pay. Permian (Upper Clear Fork) 4212-4381 ft, single well. **Acreage:** 3280. **Production Jan. 1, 1942:** Daily 3200 bbls; cumulative 68,246,167 bbls; estimated reserve 7,750,000 bbls. **Producing Wells Jan. 1, 1942:** 190. **Rigs Running May 1, 1942:** 1. **Gravity:** 35-39. **Deepest Test:** Discussed under Big Lake Deep. **Outlet:** Reagan County Purchasing Co. to Humble. **Principal Leaseholders:** Big Lake Oil Co., Group One Oil Corp., Group Two Oil Crop. **Remarks:** First sustained prolific production in Permian Basin, and responsible for construction first direct trunk line outlet. Upper Permian erratic and not attractive, while 3000-ft lime has produced more than double that yielded by Ordovician. Recently discovered 4300-ft Lower Permian situated near northeast edge field involves single well rated 3424 bbls 42-gr natural. 292 Permian producers completed.

BIG LAKE (Deep)

Discovery Data: Blind exploration. Group One Oil Corp.'s University 1-B, 250 ft from w and 88 ft from n lines sw Sec 36, Blk 9, Dec. 12, 1928. **Structure:** Anticline. **Elevation:** 2730 ft. **Production Formations:** Ellenburger dolomite 8125-8850 ft, av 100-ft penetration. **Acreage:** Developed 1220; total 1920. **Production Jan. 1, 1942:** Daily 1300 bbls; cumulative 28,059,097 bbls; estimated reserve 3,000,000 bbls. **Producing Wells Jan. 1, 1942:** 16; flowing 7. **Gravity:** 42 to 58. **Deepest Test:** Big Lake Oil Co.'s University 1-C, 2579 ft from n and 250 ft from e lines Sec 1, Blk 2, produced more than 1,000,000 bbls oil from Ellenburger 8664-8715 ft then deepened to 9562 ft, where abnd in Lower Ellenburger. **Outlet:** Reagan County Purchasing Co. to Humble. **Principal Leaseholders:** Big Lake, Group One, Group Two. **Remarks:** Discovery cost $140,000 with cable tools, and for period was record depth producer, being original Ordovician strike in district. Group 1 completed 8 Ordovician producers and 1 failure; Big Lake Oil Co. total 18 producers, and have remaining 3 and 13, respectively. Discovery showed possibilities of commercial production at 6284-6573 ft, but no attempt has been made for a completion this Permian zone.

GRAYSON (Skelly-Utah)

Discovery Data: Subsurface geology Skelly Oil Co. and Utah Southern's University 1, swc Sec 33, Blk 8, Feb. 6, 1928. **Structure:** Anticline. **Elevation:** 2900 ft. **Production Formations:** Permian 3051 to 3153 ft (average 14-ft pay section). **Acreage:** 320. **Production Jan. 1, 1942:** Daily 50 bbls; cumulative 630,531 bbls; estimated reserve 100,000 bbls. **Producing Wells Jan. 1, 1942:** 4. **Gravity:** 30-32. **Deepest Test:** Discoverers' University 1-D, c sw nw Sec 33, Blk 8, on unitized 5200-ac block, entered Simpson 9400 ft, elev 2891 ft, water in Mississippi 9967 ft, plugged back for pumper in regular pay. **Outlet:** Humble. **Principal Leaseholders:** Discoverers and Standard Oil Co. of Texas. **Remarks:** Surrounding failures in Permian and deep test discourage further development. Six Permian wells completed.

REEVES COUNTY

ANTHONY

16 miles northwest of Toyah. **Discovery Data:** Geology. Far-West Oil Co.'s (was Lagoki Oil Co.'s) Richards & Shaw 1-A, 660 ft from n and 1360 ft from w lines PSL 16, Blk 59, April 24, 1939. **Structure:** Unidentified. **Elevation:** 3127 ft. **Production Formations:** Upper Castile 1618-30 ft. **Acreage:** 40. **Production Jan. 1, 1942:** Daily 3 bbls; cumulative 2150 bbls; estimated reserve (unimportant). **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 30. **Deepest Test:** Texas Co.'s Richards-Shaw 1, nw sw sw T&P 16, ¾-mile south by west of discovery, abnd 4100 ft. **Outlet:** Trucks. **Remarks:** Discovery deepened to 1900 ft, no

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water; plugged back to 1680 ft for nitro shot, recomplete July 6, 1939, flowing 27 bbls initial, gas/oil ratio 1350/1. Development deferred due to small oil yield and marketing difficulties.

TUNSTILL (Gas)

3⅛ miles northeast of Orla. **Discovery Data:** Geology. Pacific-Mid-Continent Corp.'s (was L. W. Frankley and E. R. Rice's) Tunstill 1, ne ne nw T&P Sec 10, Blk 56, Tsp 2, Oct. 9, 1938. **Structure:** Unidentified. **Elevation:** 2906 ft. **Production Formations:** Delaware sand 3290-3305 ft. **Acreage:** 40. **Deepest Test:** General Crude Oil Co.'s T. P. Land Trust 1, c ne T&P 15, Blk 56, Tsp 2, 1½ mi s by e of gasser, estimated 10 bbls oil after nitro shot in Delaware sand 3250-90 ft, abnd 3590 ft. **Remarks:** Discovery gauged 3,770,000 ft gas, with light spray oil initial. Deepened April, 1939, to 3556 ft, negative results, plugged back; failed revived gas production and well plugged June, 1941. Area now dormant.

RUNNELS COUNTY

BEDDO

2 miles southwest McMillan pool. **Discovery Data:** Geology and trend. Homer Price and A. E. Koener's J. C. Beddo 1, 1150 ft e and 165 ft s of nwc e½ s½ Blk 51, Domingo Diaz Sur, 1st oil well, August 3, 1938; Watchorn O&G Co.'s King 1, gasser, May 28, 1928. Price-Koener's Beddo 2, 675 ft east oil discovery, opened shallow Sarratt sand Sept. 1, 1939. **Structure:** Unidentified. **Elevation:** 1730 ft. **Production Formations:** Canyon (Palo Pinto) limestone 3498-3515 ft. Canyon (Sarratt) 2310-2365 ft, av 26-ft penetration. **Acreage:** 80. **Production Jan. 1, 1942:** Daily 100 bbls; cumulative 51,684 bbls; estimated reserve 48,000 bbls. **Producing Wells Jan. 1, 1942:** 4. **Rigs Running May 1, 1942:** 1. **Gravity:** 43-45. **Deepest Test:** Watchorn O&G Co.'s King 1, drilled through gas to 3732 ft, Canyon, plugged back for completion 3475-85 ft. **Outlet:** Line to Starlight Refining Co. **Remarks:** Gasser produced for period, and plugged 1934 following unsuccessful workover. Oil discovery 1500 ft southeast of gasser, but only made 10 bbls initial, so oil development restricted to Sarratt sand.

HUDDLESTON

1½ miles east Beddo pool. **Discovery Data:** Geology and trend. True Davis and S. Boyd Johnson's J. Huddleston 1, 660 ft from s and 720 ft from e lines of Blk 36, Day Land & Cattle Co. Survey, June 21, 1940 (deep pay); Homer Price's Williams 1, 1500 ft from s and 730 ft from e lines Blk 26, D. Diaz Sur 532, upper pay discovery, Oct. 16, 1940. **Structure:** Unidentified. **Elevation** 1794 ft. **Production Formations:** Canyon (Palo Pinto) limestone 3542-70 ft. Canyon (Adams Branch) 3357-65 ft. **Acreage:** 40. **Production Jan. 1, 1942:** Daily 15 bbls; cumulative 14,577 bbls; estimated reserve 5500 bbls. **Producing Wells Jan. 1, 1942:** 2; flowing 1. **Gravity:** 44. **Deepest Test:** Davis & Johnson's Huddleston 1, discovery, drilled to 3624 ft, Canyon, then plugged back for completion through casing perforations. **Outlet:** Trucks to Starlight Refining Co. **Remarks:** Palo Pinto discovery small pumper with considerable water, while upper pay discovery flowed after acid.

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SAN ANGELO, TEXAS

McMILLAN

Discovery Data: Random drilling. Vacuum Oil Co. et al's (was Frank Yates-Lou Ladd-Ed Hill et al's) R. M. McMillan 1, c e¼ e¼ Domingo Diaz Sur 532, August 27, 1927; Victory Oil Co.-John M. Castor's Brevard 1-A, 1100 ft from n and 150 ft from w lines Blk 21, Norvell Travis Sur 533, 1st Palo Pinto producer, Feb. 10, 1942. **Structure:** Unidentified. **Elevation:** 1750 ft. **Production Formations:** Pennsylvanian (Canyon) sandy-lime 2485-2535 ft, av 6-ft penetration. Pennsylvanian (Palo Pinto) limestone 3524-68 ft. **Acreage:** 350. **Production Jan. 1, 1942:** Daily 6 bbls; cumulative 956,946 bbls; estimated reserve 10,000 bbls. **Producing Wells Jan. 1, 1942:** 2. **Rigs Running May 1, 1942:** 1. **Gravity:** 43-47. **Deepest Test:** Victory Oil Co. & John Castor's Brevard 1-A, deep discovery, to 3568 ft. **Outlet:** Line to Starlight Refining Co. **Remarks:** Area about depleted in upper pay, but recent discovery of oil in Palo Pinto by marginal pumper to result in deepening of group wells.

SCHLEICHER COUNTY

OPP

3 miles northwest El Dorado. **Discovery Data:** Geology. H. B. Opp et al's Jackson 1, 1065 ft from n and 2070 ft from e lines TC 40, Blk LL, September 2, 1939. **Structure:** Anticline. **Elevation:** 2353 ft. **Production Formations:** Cisco lime 4049 ft (broken saturation). **Acreage:** 40. **Production to March, 1940:** Cumulative 3150 bbls; (area dormant). **Gravity:** 34. **Remarks:** Discovery pumped 106 bbls initial, used 5300 gals acid; production dropped to 3 bbls daily March, 1940, when well deepened, with negative results, to 6155 ft, then temporarily abandoned.

PAGE (Gas-Oil)

9½ miles southeast of El Dorado. **Discovery Data:** Surface geology. Cooper Gas Co.'s (was Geo. T. Wilson et al's) Page 1-A-40, 1290 ft from n and 1470 ft from w lines GH&SA 40, Blk L, discovery gasser, Oct. 15, 1935; Cooper Gas Co.'s (was Lone Star Gasoline Co.'s) Page-Humble 1, c e½ nw ne GH&SA 30, Blk L, discovery oil, June 18, 1939. **Structure:** Anticline. **Elevation:** 2300 ft. **Production Formations:** Basal Pennsylvanian (Strawn-Bend) 5727-46 ft (oil), Basal Pennsylvanian (Strawn-Bend) 5380-5540 ft, (gas) average 80 ft zone broken gas pay. **Acreage:** Developed gas 400, oil 40, total gas 560, oil 40. **Production Jan. 1, 1942:** Daily 25 bbls; cumulative 32,944 bbls; estimated reserve 167,000 bbls. **Producing Wells Jan. 1, 1942:** Oil 1, flowing, Gas 4. **Rigs Running May 1, 1942:** 1. **Gravity:** 40-41. **Deepest Test:** Discovery gasser drilled to 6257 ft in Ellenburger, then plugged back. **Outlet:** Trucks; gas, Lone Star Gas Co. **Principal Leaseholder:** Cooper Gas Co. controls desirable acreage. **Remarks:** Four gassers have combined rated potential 170,000,000 ft sweet gas, with distillate spray. Single oil well is southeast and down dip from gas area. Both oil and gas areas likely to be expanded when development resumed.

SCURRY COUNTY

SHARON RIDGE

18 mi sw of Snyder. **Discovery Data:** Geology. D. & R. Oil Co.'s (was Robinson Drilling Co.'s) A. C. Martin 1, c nw sw H&TC 147, blk 97, Jan. 14, 1938. **Structure:** Anticline. **Elevation:** 2275 ft. **Production Formations:** Permian sandy-lime 2195 to 2500 ft (broken saturation, average 180 ft, but subnormal in porosity and permeability, requiring heavy nitro shot to make comercial pumpers). **Acreage:** Developed, 1380; total, 2080. **Production Jan. 1, 1942:** Daily, 2000 bbls; cumulative, 929,051 bbls; estimated reserve, 8,791,000 bbls (See Remarks). **Producing Wells Jan. 1, 1942:** 160; flowing, 2. **Rigs Running May 1, 1942:** 3. **Gravity:** 29-33. **Deepest Test:** Coffield & Guthrie's Spears 1, nwc sw H&TC 130, blk 97, drilled to 3543 ft, pb for completion Nov. 7, 1938, while discovery was off production and area otherwise dormant. Landreth's Hueber 1, nec H&TC 75, blk 25, west of structure, abnd 4290 ft. **Outlets:** Coffield & Guthrie to Coltex Refining Co.'s refinery. **Remarks:** All production data pertains to both Sharon Ridge and Northwest fields, which are prorated as unit. Discovery proved to be most northerly producer; after passing up original pay to drill to 3515 ft, pb for recompletion as pumper Jan. 8, 1940.

SCURRY-MITCHELL COUNTY

NORTHWEST

Discovery Data: Surface geology. Coffield & Guthrie's (was The Northwest Co., previously The Loutex Corp.) J. J. Moore 1, c sw nw H&TC 116, blk 97, June, 1923. **Structure:** Anticline. **Elevation:** 2175 to 2300 ft. **Production Formations:** Permian 1530 to 1850 ft (broken saturation, averaging 100-ft thickness, but permeability and porosity subnormal, requiring heavy nitro shot to make commercial pumpers). **Acreage:** 1400. **Production Data:** (See Remarks). **Gravity:** 29-32. **Deepest Test:** Discovery carried to 3576 ft, pb for pumper. **Outlets:** Coffield & Guthrie to Coltex Refining Co.'s refinery. **Remarks:** Production included with Sharon Ridge, which is officially the name of the two separate pools. Development lagged due to small pumpers and erratic market outlet, until July, 1940, when N. V. Hilbun et al's Strain-Shell 1, se H&TC 82, extended production 1¾ mi into Mitchell County, then month later Ewing & C. W. Hanes' Grable 1, sw sw ne H&TC 195, advanced production 2½ mi e, thus proving the most attractive sector of the pool.

STONEWALL COUNTY

ASPERMONT

7 miles southeast of Aspermont. **Discovery Data:** Core tests and geology. Shell's Smith 1, nw nw sw H&TC 143, Blk 1, August 7, 1940. **Structure:** Anticline. **Elevation:** 1767 ft. **Production Formations:** Mississippian limestone 6012-65 ft. Strawn sand and lime 5140-60 ft and 5356-90 ft (1942 discovery). **Acreage:** 40. **Production Jan. 1, 1942:** Daily 35 bbls; cumulative 17,514 bbls; estimated reserve 102,500 bbls. **Producing Wells Jan. 1, 1942:** 1; flowing. **Gravity:** 37. **Deepest Test:** Shell's Rutherford 1, northwest offset to discovery, abnd in Ellenburger 6197-6239 ft, and Rutherford 2, 1980 ft west this failure to Ellenburger 6345 ft, pb and completed March 19, 1942, pumping 54

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BOYD

7 miles northeast of Aspermont. **Discovery Data:** Geology. Forest Development Corp.'s Boyd 1, 530 ft from n and 1930 ft from e lines H&TC 45, Blk D, May 17, 1939. **Structure:** Anticline. **Elevation:** 1670 ft. **Production Formations:** Canyon (Palo Pinto) limestone 4708-24 ft. **Acreage:** 40. **Production Jan. 1, 1942:** Daily 20 bbls; cumulative 24,021 bbls; estimate reserve 26,000 bbls. **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 38-39. **Deepest Test:** Discovery carried to 4760 ft. **Oil Outlet:** Truck. **Remarks:** Failures 1400 ft southwest and 4300 ft southeast of pool's single pumper terminated development.

CARLISLE

6½ miles north of Peacock. **Discovery Data:** Surface geology and core drill. Leader Oil Co.'s (was A. G. Swanson and F. B. Parriott's) Carlisle 1, sw se sw H&TC 293, Blk D, August 10, 1938. **Structure:** Anticline. **Elevation:** 1790 ft. **Production Formations:** Canyon (Palo Pinto) lime 5154 to 5176 ft, av 8-ft penetration. **Acreage:** 80. **Production Jan. 1, 1942:** Daily 85 bbls; cumulative 62,059 bbls; estimated reserve 98,000 bbls. **Producing Wells Jan. 1, 1942:** 2. **Gravity:** 41. **Deepest Test:** Second and the last producer on discovery site filled 600 ft with oil 5 hrs from Ellenburger 6540-43 ft; hole full water 6727-28 ft; plugged back 5165 ft as pumper. Leader's Carlisle 3, ½-mile northeast discovery logged Mississippian 6295 ft; Simpson 6465 ft; detrital Ellenburger 6563 ft; solid Ellenburger 6573-76 ft and aband. **Outlet:** Truck. **Remarks:** Development may be resumed as two pumpers showing comparatively flat decline curve.

TERRELL COUNTY

GOODE (Gas)

Discovery Data: Surface geology. Ohio's (was Transcontinental's) M. H. Goode 1, 2152 ft from e and 330 ft from s lines GC&SF 26, Blk 161, April 1, 1931. **Structure:** Unidentified. **Elevation:** 2405 ft. **Production Formations:** Pennsylvanian 5606-12 ft. **Acreage:** 40. **Deepest Test:** Discovery rated 6,250,000 ft dry sweet gas daily; deepened to 9140 ft (black shale and sand) without additional shows, then abandoned March 8, 1937.

TOM GREEN COUNTY

FUNK

Discovery Data: Geology. B. C. Mann et al's J. D. Funk 1, ne nw ne H&TC 32, Blk 5, May 22, 1940. **Structure:** Unidentified. **Elevation:** 2417 ft. **Production Formations:** Permian (Blaine) limestone 1121-29 ft. **Acreage:** 40. **Production Jan. 1, 1942:** Cumulative 300 bbls; estimated reserve unimportant. **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 33. **Deepest Test:** Discovery drilled to sulphur water 1560-62 ft, plugged for completion by acidizing perforations 1121-29 ft. **Outlet:** Truck. **Remarks:** Development terminated after failures north by east and west by north of discovery. Well not on steady production.

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UPTON COUNTY

HERRINGTON

2½ mi n of McCamey. **Discovery Data:** Subsurface geology and trend. Basin Oil Properties' (was R. H. Henderson et al's) A. J. Herrington 1-a, se nw se CCSD&RGNG sur 4, blk 3½, May 19, 1937. **Structure:** Anticline. **Elevation:** 3110 ft. **Production Formations:** Permian limestone 2815 to 2896 ft, average 60 ft penetration. **Acreage:** 80. **Production Jan. 1, 1942:** Daily, 35 bbls; cumulative, 50,839 bbls; estimated reserve 49,000 bbls. **Producing Wells Jan. 1, 1942:** 2. **Gravity:** 24-27. **Deepest Test:** Discovery company's Herrington 3-A drilled to 2963 ft. **Outlet:** Shell. **Remarks:** Area involves large lease tracts, and competitive drilling avoided. Production possibilities undetermined.

HURDLE

Discovery Data: Trend drilling. F. W. Merrick, Inc. (was O. S. Brewer and Forest Smith's) Cordova Union Oil Corp. 1, sec e½ nw MK&T 19, blk 1, June 12, 1936. **Structure:** Unidentified. **Elevation:** 2515 ft. **Production Formations:** Permian limestone 2030 to 2100 ft, average 40 ft penetration. **Acreage:** 240. **Production Jan. 1, 1942:** Daily 40 bbls; cumulative, 217,150 bbls; estimated reserve, 83,000 bbls. **Producing Wells Jan. 1, 1942:** 13. **Gravity:** 24 to 27. **Outlet:** Shell. **Remarks:** Area related to McCamey field, although isolated by failures. Total of 17 wells completed.

OWENS

Discovery Data: Random drilling. Starnes & Yates (was B. C. D. Development Co.'s) Richard Owens 1, 467 ft from n and 2173 ft from w lines sec 91, blk Y, F. Rooney (GC&SF) sur, Nov. 18, 1940. **Structure:** Anticline. **Elevation:** 2704 ft. **Production Formations:** Permian limestone 2800-22 ft. **Deepest Test:** Discovery to water at 2827 ft. **Remarks:** Single-well pool, situated 1⅛ mi ne McCamey field's nw extension sector, failed to maintain comercial production and abnd.

WEB-RAY

Discovery Data: Subsurface geology. Web-Ray Oil Co.'s Cordova Union Oil Corp.'s 1, 2518 ft w and 17⅓ ft n of nwc GC&SF 8, but in sec 3, blk AB, A. E. Baxley sur, Nov. 19, 1935. **Structure:** Anticline. **Elevation:** 2576 ft. **Production Formations:** Permian limestone 2050 to 2100 ft, average 20 ft saturation. **Acreage:** 160. **Production Jan. 1, 1942:** Daily, 15 bbls; cumulative, 51,646 bbls; estimated reserve 23,400 bbls. **Producing Wells Jan. 1, 1942:** 2. **Gravity:** 26-27. **Outlet:** Shell. **Principal Leaseholders:** Kenwood Oil Co., Web-Ray Oil Co. **Remarks:** Situated 2½ mi se of McCamey field, but isolated from same by failures. 10 wells completed.

UPTON-CRANE COUNTY

McCAMEY

Discovery Data: Surface geology. Republic Production Co.'s (was J. P. Johnson-Geo. B. McCamey and Marland Oil Co.'s) M. L. Baker 1, near e corner n¼ sec 8, E. C. Groom sur, Sept. 30, 1925. **Structure:** Anticline. **Elevation:** 2550 to 3120 ft. **Production Formations:** Permian limestone 1910 to 2800 ft, average 64 ft penetration. **Acreage:** Developed, 15,200; total, 18,000 (scattered). **Production Jan. 1, 1942:** Daily, 9500 bbls; cumulative, 53,426,106 bbls; estimated reserve 22,574,000 bbls. **Producing Wells Jan. 1, 1942:** 858. **Gravity:** 26 to 30. **Deepest Test:** Gulf's Sanger-King 1, 330 ft s c n line MK&T 14, blk 3, 1 mi ne production, bailed oil 2743-2811 ft, trace oil 3016-25 and 3450-60 ft, abnd hfw 3540-96 ft. **Outlets:** Humble and Shell. **Remarks:** Crude recovery in this widely scattered field has surpassed early estimates, and belated acid treatment of porous limestone resulted in commercial production that was not attainable through natural completion, or with aid of nitro shot. Nominal volume of development still possible, while deeper production in Permian and possibly Ordovician has been given serious consideration by companies that are accumulating mineral rights below regular pay.

WARD COUNTY

BYRD

3½ miles south Spencer pool. **Discovery Data:** Geology. Stanolind's H. L. Byrd 1, c e¼ n¼ H&TC 34, Blk 34, March 17, 1942. **Structure:** Reef. **Elevation:** 2594 ft. **Production Formations:** Permian sandy-lime 2637-79 ft. **Acreage:** 40. **Estimated Reserve:** 20,000 bbls. **Producing Wells May 1, 1942:** 1; flowing. **Rigs Running May 1, 1942:** 1. **Gravity:** 30. **Deepest Test:** Discovery to sulphur water in dolomite 2855-80 ft. **Outlet:** Truck. **Remarks:** Outlying Failures indicate comparatively small pool. Discovery flowed 29 bbls initial ⅛-in choke; 105-quart nitro shot 2637-79 ft.

DARBY

1-1/3 miles west by south of Magnolia-Sealy South pool Darby Pet. Corp.'s University 1, c se sw Sec 19, Blk 16, March 25, 1942. **Discovery Data:** Geology. **Structure:** Reef. **Elevation:** 2617 ft. **Producing Formation:** Permian oolitic lime 2825-47 ft. **Acreage:** 40. **Estimated Reserve:** 200,000 bbls. **Gravity:** 20.8. **Outlet:** Atlantic. **Rigs Running May 1, 1942:** 1. **Remarks:** Discovery flowed 897 bbls natural 2-in tubing, gas-oil ratio 61/1. Pay is saturated oolitic lime with cavernous porosity.

DOBBS

Discovery Data: Subsurface geology. Duffey Oil Co.'s (was Dobbs Oil Co.'s) A. F. Bray-Gulf 1, 1650 ft from sw and 2310 ft from se lines H&TC 14, Blk 5, January 8, 1936. **Structure:** Minor high on anticlinal trend. **Elevation:** 2465 ft. **Production Formations:** Permian sandy-lime 2550-63 ft. **Acreage:** 40. **Production Jan. 1, 1942:** Daily 5 bbls; cumulative 17,945 bbls; estimated reserve 2100 bbls. **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 37. **Deepest Test:** Discussed under South Ward. **Outlet:** Atlantic. **Remarks:** Failures to north, south and west of two producers caused halt in development.

ESTES

Discovery Data: Trend drilling. Humble's L. Richter 1, 1650 ft from ne and 990 ft from se lines H&TC 27, Blk 34, July 1, 1933; Tide Water Associated Oil Co.'s (was Simms Oil Co.'s) W. D. Johnson 1, 330 ft out of most easterly corner H&TC 28, Blk 34, June 23, 1934

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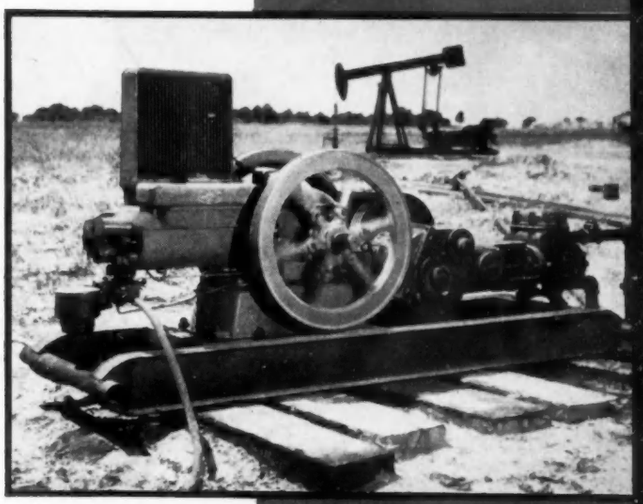

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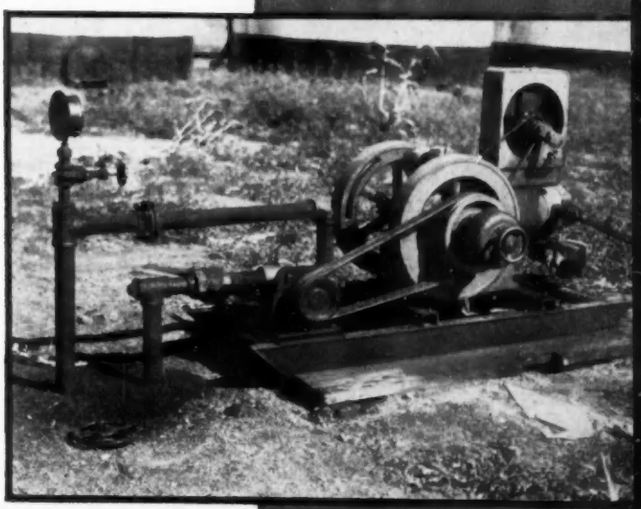

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(discovery lower pay). **Structure:** Anticline. **Elevation:** 2610 ft. **Production Formations:** Permian sandy-lime 2410-2700 ft, av 159-ft penetration; 2780-2950 ft, average 87-ft penetration. **Acreage:** Developed 3800; total 4200. **Production Jan. 1, 1942:** Daily 5600 bbls; cumulative 12,529,095 bbls; estimated reserve 33,071,000 bbls. **Producing Wells Jan. 1, 1942:** oil 349; flowing 283; gas 4. **Gravity:** 33-36. **Deepest Test:** Gulf's Estes 148, 330 ft from n and 4310 ft from w lines PSL 27, Blk B-19, abnd in Permian water 3089-96 ft. **Outlets:** Atlantic, Gulf. **Remarks:** Most prolific section in north portion structure; lower pay somewhat irregular, being confined to southeast sector and embraces about 600 acres. Gulf's 2520-acre Estes lease has 152 producers and only 1 failure.

GRAND FALLS (South Ward)

Centering upon Grand Falls townsite. **Discovery Data:** Random drilling. Alpine Oil & Development Co.'s J. F. Boogher 1, H&TC 11, Blk 5, Oct. 14, 1929. **Production Formations:** Permian sand and sandy-lime, varying from 2150 to 2500 ft. **Outlets:** Atlantic and Wickett Pipe Line Co. **Remarks:** Included with South Ward.

KUGLE

Included under South Ward. **Discovery Data:** Trend drilling. Fleming Oil Co.'s (was J. G. Kugle et al's) Wallis 1, 330 ft from se and 1263 ft from sw lines H&TC 19, Blk 34, Feb. 12, 1931. **Structure:** Anticline. **Elevation:** 2520 ft. **Producing Formation:** Permian sandy-lime 2400-2680 ft, av 120-ft penetration. **Acreage:** 900. **Production Jan. 1, 1942:** (included under South Ward). **Gravity:** 28-29. **Deepest Test:** Bolin & R. W. Lindsay's Stewart 2, 2310 ft from nw and 330 ft from sw lines H&TC 12, Blk 34, abnd 3118 ft. **Outlet:** Atlantic. **Remarks:** Area is most southwesterly Permian pool in county, and sparsely developed due to small yield. 33 producers completed. Officially included in South Ward, although isolated from main fields.

MAGNOLIA-SEALY

Discovery Data: Random drilling. Magnolia's Sealy 1, ne ne sw GMMB&A 46, Blk F, Nov. 24, 1930. **Structure:** Narrow reef. **Elevation:** 2730 ft. **Production Formations:** Permian 3000 to 3075 ft, av 20-ft penetration. Permian sandy-lime 2740 to 2850 ft, average 45 ft. **Acreage:** 66. **Production Jan. 1, 1942:** Daily 970 bbls; cumulative 784,000 bbls; estimated reserve 4,016,000 bbls. **Producing Wells Jan. 1, 1942:** 54; flowing 9. **Gravity:** 29 to 37, average 34. **Deepest Test:** Gulf's O'Brien 135, nw sw nw GMMB&A 36, Blk F, southeast edge production, abnd sulphur water 3146-66 ft. **Outlet:** Atlantic. **Principal Leaseholders:** Gulf, McQueen & Clevenger, Magnolia, Mid-Continent Pet. Corp., Navarro Oil Co., and Sinclair Prairie. **Remarks:** Deeper and most productive pay found in north portion structure. Discovery now pumps 15 bbls daily.

MAGNOLIA-SEALY, SOUTH

Discovery Data: Subsurface geology and trend. Atlantic et al's University-Wickett 1, c sw ne Sec 12, Blk 16, May 17, 1940. **Structure:** Narrow reef. **Elevation:** 2650 ft. **Production Formations:** Permian dolomite 2890-2940 ft, av 4-ft penetration. **Acreage:** 480. **Production Jan. 1, 1942:** Daily 350 bbls; cumulative 85,375 bbls; estimated reserve 2,315,000 bbls. **Producing Wells Jan. 1, 1942:** Oil 14; flowing; gas 2.

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Gravity: 28-30. **Deepest Test:** Gulf's O'Brien 141, se ne nw Sec 30, Blk F, ½-mile east production, numerous water zones to 3578 ft, where abandoned. **Outlet:** Atlantic. **Principal Leaseholders:** Atlantic and Magnolia. **Remarks:** Area extends 3¼ miles north-south, with average width of 2 locations, and may extend further south. Abundance of gas in lime assures long flowing life.

MONROE

12 miles southeast Wheat field. **Discovery Data:** Surface geology. Plains Production Co.'s (was Shipley Oil Corp.-D. H. Byrd-H. A. Harmon's) Lee Monroe 1-A, 220 ft out of w corner W&NW 3, Blk 1, November 21, 1931. **Structure:** Fold in Delaware series. **Elevation:** 2650 ft. **Production Formations:** Delaware sandstone 4663 to 4673 ft. **Acreage:** Developed 80; total 320. **Production Jan. 1, 1942:** Daily 25 bbls; cumulative 80,000 bbls; estimated reserve 20,000 bbls. **Producing Well Jan. 1, 1942:** 1, flowing. **Gravity:** 32. **Deepest Test:** Ten-Well Oil Co.'s (was L. F. White et al's) Monroe-Rector 1, east corner W&NW 3, Blk 1, across section from discovery, td 4710 ft, pb for small oil flow after multiple shots, but non-commercial and abandoned. **Outlets:** Trucks and rail to El Paso. **Principal Leaseholders:** Plains Production Co. and Ten-Well Oil Co. **Remarks:** Three failures within 1½ miles radius of discovery. No new developments contemplated.

PRAIRIE-SEALY (Gas)

Discovery Data: Geology. Sinclair Prairie Oil Co.'s (was Prairie Oil & Gas Co.'s) John Sealy 1, c sw GMMB&A 95, Blk A, Feb. 2, 1929. **Structure:** Anticline. **Elevation:** 2666 ft. **Production Formations:** Permian sandy-lime 2526-75 ft. **Acreage:** 40. **Producing Wells Jan. 1, 1942:** Gas, 2. **Deepest Test:** Discovery drilled to flowing sulphur water 3470-3505 ft, pb to 3040 ft for 3,000,000 ft daily, 865 lbs rock pressure. **Gas Outlet:** Southern Union Gas Co. **Remarks:** This strike involves discovering gasser of North Ward district, and has remained isolated from oil production. Two gassers used in flowing nearby oil wells.

QUITO (Gas)

3 miles northeast of Quito. **Discovery Data:** Geology. Merry Bros. & Perini and Kenneth Slack's Hayes 1, 330 ft out of n corner H&TC 148, Blk 34, May, 1940 (gasser); Slack-Mahres et al's Pat Wilson 1, s corner w¼ of s¼ H&TC Sec 133, Blk 34, oil discovery, Aug. 19, 1937. **Structure:** Anticline. **Elevation:** 2740 ft. **Production Formations:** Delaware sandstone 5041-88 ft, with rated potential of 21,262,000 ft wet gas, 2000 lbs rock pressure. Delaware 5023 to 5092 ft (non-commercial oil zone). **Acreage:** 40. **Production Jan. 1, 1942:** Cumulative 2450 bbls. **Producing Wells Jan. 1, 1942:** Gas, 1. **Rigs Running May 1, 1942:** 1. **Gravity:** 42. **Deepest Test:** Roeser-Pendleton, Inc.-Merry Bros. & Perini's Hayes 1, s corner H&TC 164, Blk 34, ¼-mile north gasser, abnd 5397 ft. **Gas Outlet:** Southern Union Utilities Co. **Remarks:** 2¾ miles northwest of non-commercial discovery oil pumper previously completed same zone. Both oil wells plugged after operating briefly. Discovery gasser in largest yielded by Delaware. Oil area officially called Wilson pool.

SHIPLEY

Discovery Data: Random drilling. Shipley Oil Corp.'s S. F. Hayzlett 1, 150 ft out of n corner of s¼ H&TC 17, Blk 5, Nov. 2, 1928. **Structure:** Anticline. **Elevation:** 2500 ft. **Production Formations:** Permian sandy-lime, 2390 to 2700 ft, av 91-ft penetration. Permian 2770 to 3070 ft, av 101-ft penetration. **Acreage:** Developed 1600; total 2000 (scattered). **Production Jan. 1, 1942:** Daily 1700 bbls; cumulative 3,721,580 bbls; estimated reserve 5,878,000 bbls. **Producing Wells Jan. 1, 1942:** 120; flowing 10. **Rigs Running May 1, 1942:** 1. **Gravity:** 35-36. **Deepest Test:** Discussed under Shipley (Silurian). **Outlets:** Atlantic and Wickett Pipe Line Co. **Remarks:** Nominal development program likely to be given area when reasonable production allowables restored, as two thirds of the wells capable of producing above their marginal-well quota. The lower pay, limestone that responds favorably to acid, is the most productive zone.

SHIPLEY (Silurian)

3 miles northeast of Grand Falls. **Discovery Data:** Deep exploration within shallow pool. Gulf's Wristen Bros. 5, 330 ft out of e corner of w¼ H&TC 18, Blk 5, Dec. 11, 1940. **Structure:** Anticline. **Elevation:** 2500 ft. **Production Formations:** Silurian limestone 7010 to 7060 ft. **Acreage:** 80. **Production Jan. 1, 1942:** Daily 55 bbls; cumulative 25,350 bbls; estimated reserve 475,000 bbls. **Producing Wells Jan. 1, 1942:** 2, flowing. **Gravity:** 32-33. **Deepest Test:** Discovery deferred production test of Silurian to explore Ordovician; topped Simpson 7375 ft (1627 ft thick); Ellenburger 9002-9187 ft, with promising oil saturation in upper Ellenburger and substantiated by drill-stem tests. Loss of 265 feet drill pipe 9187 ft prevented decisive test of Ellenburger. **Outlet:** Trucks to Gulf Refining Co. for blending before entering pipe line due to oil congealing at 75° F. **Principal Leaseholders:** Gulf, Stanolind, Shell, Atlantic et al. **Remarks:** This is the only Silurian producing area in Texas, and importance as crude source questionable. Gas yields 0.08 hydrogen sulphide, with comparatively high gas-oil ratio.

SPENCER

4½ miles southeast of South Magnolia-Sealy pool. **Discovery Data:** Trend, subsurface and geophysics. Stanolind's Spencer-Evans 1, 467 ft out of north corner w¼ H&TC 53, Blk 34, June 27, 1941. **Structure:** Reef. **Elevation:** 2640 ft. **Production Formations:** Permian dolomite 2920-50 ft. **Acreage:** 160. **Production Jan. 1, 1942:** Daily 120 bbls; cumulative 6550 bbls; estimated reserve 1,280,000 bbls. **Producing Wells Jan. 1, 1942:** 4, flowing. **Rigs Running April 15, 1942:** 2. **Gravity:** 28-29. **Deepest Test:** Discovery encountered water 2990 ft. and Standard of Texas' Harding 1, northwest offset, missed production, td 2970 ft. **Outlet:** Stanolind to Wink, then Humble. **Principal Leaseholders:** General Crude Oil Co., Standard of Texas, Stanolind, Humble. **Remarks:** Producing area narrow, with portion of structure yielding dry gas. Similar type producing structures along trend north-south.

WARD, SOUTH (Bennett)

Discovery Data: Subsurface geology. Atlantic-Penn Oil Co.'s Bennett 1-A, 330 ft out of n corner of s¼ H&TC 16, Blk 34, Oct. 2, 1929. **Structure:** Monocline accumulation. **Elevation:** 2500 ft. **Production Formations:** Permian (Yates) sand and sandy-lime 2123 to 2630 ft, av 171-ft penetration. **Acreage:** Dev. 9800; total 11,400 (scattered). **Production Jan. 1, 1942:** Daily 3250 bbls; cumulative 27,573,564 bbls;

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estimated reserve 16,526,000 bbls. **Producing Wells Jan. 1, 1942:** 582, flowing 217. **Rigs Running April 15, 1942:** 1. **Gravity:** 33-37. **Deepest Test:** Sid Richardson et al's W. D. Johnson-Sun 32-B, 330 ft from ne and se lines H&TC Sec 22, Blk 34, nominal oil saturation 3014-18; 3562-68; and 3570-76 ft, total depth 3685 ft, Permian, pb for completion regular pay. **Outlets:** Atlantic, Comanche Pipe Line Co. and Wickett Pipe Line Co. **Remarks:** Subsequent development united this pool with the South Ward district, which now includes Grand Falls townsite sector and Kugle pool. Nominal amount of additional development due in South Ward district, while deeper producing zones in Permian anticipated at scattered points, as some encouragement gained from comparatively few tests drilled below regular pay.

WARD-WINKLER COUNTY

WARD, NORTH (Gulf-O'Brien)

Discovery Data: Geology. Gulf's G. W. O'Brien et al 4, c nw sw GMMB&A 19, Blk F, April 12, 1929. **Structure:** Monoclinal accumulation. **Elevation:** 2650 ft. **Production Formations:** Permian sandy-lime 2425 to 2800 ft, av 193-ft penetration; 2900 to 3225 ft, average 124-ft penetration. **Acreage:** Developed 6600; total 8500 (scattered). **Production Jan. 1, 1942:** Daily 7850 bbls; cumulative 22,467,913 bbls; estimated reserve 30,332,000 bbls. **Producing Wells Jan. 1, 1942:** Oil 414; flowing 281; gas 2. **Rigs Running April 15, 1942:** 2. **Gravity:** 32-35. **Deepest Test:** Gulf's O'Brien 31, nw ne ne GMMB&A 16, Blk F, Ward County, abnd sulphur water 3450 ft. **Outlets:** Atlantic, Gulf, Wickett Pipe Line Co. **Remarks:** Gulf has about 80% of the field's producing wells on Hutchings Joint Stock Association 30,450-acre lease and G. W. O'Brien 22,400-acre lease with "hundreds" of undrilled proved and semi-proved locations. Productive area extends 13 miles northwest-southeast, with maximum width of 1½ miles. This structure considered excellent prospect for production in Lower Permian and possibly Silurian and Ordovician. Only 14 marginal wells in North Ward.

WINKLER COUNTY

BASHARA (Keystone-Colby)

Discovery Data: Random drilling. M. J. Bashara & Sons' Fee 1, ne se sw PSL 17, blk B-3, gasser in upper lime, May 5, 1929; Fee 2, e offset, first oil well, Jan. 27, 1930. **Structure:** Anticline. **Elevation:** 2880 ft. **Production Formations:** Permian sandy-lime 2470-80 ft (gas). Permian sandy-lime 3057 to 3275 ft (oil), broken saturation. **Gravity:** 32-36.

BOLIN (Kermit)

1½ mi se of Kermit. **Discovery Data:** Random drilling. T. J. Jeffries et al's (was V. T. Bolin et al's) Brown-Altman 1, se se nw PSL 4, blk B-5, July 19, 1928. **Elevation:** 2850 ft. **Production Formations:** Permian sandy-lime 2700-2900 ft, broken saturation, yielding small pumper after nitro shot. **Acreage:** 40. **Gravity:** 34-36. **Deepest Test:** Discovery plugged back from 3211 ft, and e offset abnd 3506 ft. **Remarks:** Discovery pumped 20 bbls initial, and an offset proved dry, causing suspension of development in immediate area. Credit is due this isolated producer for first production in sandy-lime belt paralleling Hendrick field, thus marking the beginning of series of important oil strikes that followed.

BROWN-ALTMAN (Kermit)

2 mi s Kermit townsite. **Discovery Data:** Trend drilling. J. O. Fox-W. E. Butler & T. J. Jeffries' Brown-Altman 1, ne ne sw PSL 6, blk B-5, March 9, 1935. **Elevation:** 2840 ft. **Production Formations:** Permian sandy-lime 3100-3200 ft, broken saturation.

EAVES

½-mi s Lea County, N. M., line. **Discovery Data:** Geology and trend. Bert Fields et al's Daugherty-Leck (Wentz) 1, 330 ft from w and 2970 ft from s lines PSL 3, blk C-23, Nov. 1936. **Structure:** Anticline. **Elevation:** 2930 ft. **Production Formations:** Permian limestone 3050 to 3180 ft, average 75 ft penetration. **Acreage:** 160. **Production Jan. 1, 1942:** Daily, 330 bbls; cumulative, 541,116 bbls; estimated reserve 419,000 bbls. **Producing Wells Jan. 1, 1942:** 7; flowing, 2. **Gravity:** 26 to 29. **Deepest Test:** Discovery to 3210 ft. **Outlets:** Humble and Shell. **Principal Leaseholders:** Harry Adams & Bradley, Bert Fields, Gulf, and Sun. **Remarks:** Development terminated with completion 7 oil wells, all had water trouble. No dry holes in immediate area. Discovery produced 18,828 bbls to 1-1-42.

EMPEROR

Discovery Data: Geology and trend drilling. Emperor Oil Co.'s S. M. Halley 1, sec n½ s½ PSL 12, blk B-12, Oct. 3, 1935. **Structure:** Anticline. **Elevation:** 2780 ft. **Production Formations:** Permian sandy-lime 2700 to 3070 ft, average 157 ft penetration. **Acreage:** Developed, 1100; total, 1700 (scattered). **Production Data Jan. 1, 1942:** Daily, 1400 bbls; cumulative, 2,558,165 bbls; estimated reserve, 4,042,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 70; flowing, 66. **Gravity:** 32-34. **Deepest Test:** Skelly Oil Co.'s Halley 26, se nw nw PSL 6, blk B-11, through pay to 3145 ft. **Outlets:** Magnolia and Shell. **Remarks:** More than score additional wells likely to be drilled, with prospects of production extending n to Emperor Deep and s to Halley pool.

EMPEROR DEEP

Discovery Data: Trend drilling. Bert Fields et al's E. W. Cowden-Pure 1, nw nw se PSL 26, blk B-5, Sept. 23, 1936. **Structure:** Anticline. **Elevation:** 2820 ft. **Production Formations:** Permian (Yates) sandy-lime 2740 to 3070 ft, average 159 ft penetration, with 40-ft saturation. **Acreage:** Developed, 1120; total, 1600 (scattered). **Production Jan. 1, 1942:** Daily, 640 bbls; cumulative, 283,687 bbls; estimated reserve, 2,636,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 48; flowing, 41; gas, 8. **Gravity:** 29-32. **Deepest Test:** Bert Fields et al's Cowden-Pure 1-D, ne ne sw PSL 26, blk B-5, 3100 ft. **Outlets:** Magnolia and Shell. **Remarks:** Additional development pending, with production due to extend s and connect with Emperor pool.

HALLEY

Discovery Data: Geology and trend drilling. Skelly Oil Co.'s S. M. Halley 1, 2200 ft out of nec PLS 25, blk 11, August 27, 1934; Halley 2, 880 ft n above oil discovery, first gasser, Sept. 24, 1935. **Structure:** Anticline. **Elevation:** 2730 ft. **Production Formations:** Permian sandy-lime, 2684 to 3150 ft, average 127 ft penetration. **Acreage:** Developed, 560; total, 700 (scattered). **Production Data Jan. 1, 1942:** Daily, 400 bbls; cumulative, 845,857 bbls; estimated reserve, 2,514,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 24; flowing, 7; gas, 1. **Gravity:** 31-32. **Deepest Test:** Skelly Oil Co.'s Halley 3, 2200 ft from n and 1320 ft from e lines PSL 25, blk B-11, show gas 3766-90 ft, sulphur water 3810-55 ft, pb for gasser. **Outlets:** Shell. **Principal Leaseholders:** Eastland Oil Co., Skelly and Sun. **Remarks:** Total of 25 oil producers completed. Area subject to extensions to n and s, and due to connect with Emperor. Hill pool officially incorporated with Halley, but given separate listing.

HENDERSON

Discovery Data: Geology and trend drilling. W. K. Royalty Co.'s (was Uscan Oil Co., previously R. H. Henderson et al's) J. B. Walton-Humble 1-A, ne ne ne PSL 9, blk B-26, April 6, 1936. **Structure:** Narrow reef. **Elevation:** 2880 ft. **Production Formations:** Permian (extremely porous) limestone 2950 to 3100 ft, average 51 ft penetration. **Acreage:** Developed, 1580; total, 1800. **Production Jan. 1, 1942:** Daily, 2450 bbls; cumulative, 5,197,845 bbls; estimated reserve 18,501,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 139; flowing, 131; gas, 2. **Rigs Running April 15, 1942:** 1. **Gravity:** 30-31. **Deepest Test:** Humble & Tide Water's Walton 1-C, sw sw se PSL 21, blk 74, northeast edge, abnd sulphur water 3185-3201 ft. **Outlets:** Atlantic, Humble, Stanolind and Shell. **Remarks:** Nominal volume of drilling possible. Abundance of high-pressure gas in big lime above oil zone.

HENDRICK

Discovery Data: Random drilling. Stanolind-Westbrook-Thompson Holding Corp.'s (was R. A. Westbrook & Co.'s) T. G. Hendrick 1-A-T-67, 390 ft from e and 430 ft from s lines PSL 42, blk B-5, (1st oil flow July 17, 1926), Sept. 7, 1926; recomplete Nov. 7, 1926. **Structure:** Structural high in big lime. **Elevation:** 2820 ft. **Production Formations:** Permian limestone 2500 to 3200 ft, average 78 ft penetration. **Acreage:** 9600. **Production Jan. 1, 1942:** Daily, 7650 bbls; cumulative, 204,876,000 bbls; estimated reserve, 20,000,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 290; flowing, 85; gas, 3. **Gravity:** 27-30. **Deepest Test:** Stanolind et al's Hendrick T-67-3-B-1, swc PSL 33, blk B-26, produced more than 100,000 bbls regular zone, deepened to 3962 ft, where 5 3/16-in cemented and well capped without drilling plugs. **Outlets:** Gulf, Pasotex, Shell and Stanolind. **Remarks:** Prior to proration May 5, 1928, field produced 22,613,588 bbls. During past 5 years the volume of sulphur water accompanying oil output has averaged 98 percent of fluid produced, with the oil production curve remaining fairly constant.

HILL

2 mi ne Halley pool. **Discovery Data:** Subsurface geology. Sid Richardson Oils, Inc.'s M. J. Hill 1, sw sw se PSL 18, blk B-11, Feb. 23, 1935. **Structure:** Unidentified. **Elevation:** 2755 ft. **Production Formations:** Permian limestone, 3132-55 ft. **Acreage:** 40. **Production Jan. 1, 1942:** Daily, 6 bbls; cumulative, 14,605 bbls; estimated reserve, 5000 bbls. **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 27-29. **Deepest Test:** Gulf's Hill 1, swc se PSL 9, blk B-11, 2¼ mi ne Hill discovery, abnd in sulphur water 4100-70 ft. Discovery well logged promising oil show 3702-3825 ft (broken saturation), tested water, td 3846 ft, pb for initial flow 30 bbls after nitro shot. **Outlet:** Shell. **Remarks:** Development terminated after Superior Oil Corp.'s west offset to discovery proved dry at 3155 ft.

KERMIT (Sayre)

Discovery Data: Subsurface geology and trend from Scarborough. Reno Oil Co.'s (was Sayre Oil Co.'s) J. F. Howe 1, nw nw sw PSL 12, blk B-26, Oct. 10, 1934. **Structure:** Anticlinal accumulation. **Elevation:** 2880 ft. **Production Formations:** Permian (Yates) sandy-lime 2700 to 3210 ft, average 238 ft penetration. **Acreage:** Developed, 10,200; total, 12,000. **Production Jan. 1, 1942:** Daily, 7800 bbls; cumulative, 26,665,000 bbls; estimated reserve, 19,235,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 827; flowing, 285; gas, 14. **Gravity:** 35-37. **Deepest Test:** Discussed under Keystone-Colby. **Oil Outlets:** Gulf, Humble, Magnolia, Shell, Stanolind and Texas-New Mexico. **Remarks:** Originally identified as Sayre field, then progressively linked with Keyes and Brown-Altman areas, resulting in trio being consolidated under Kermit heading. With few exceptions 10-acre spacing followed, and due to such close spacing the structure is over-drilled. Future development to be confined to few fill-in tests on south end.

KEYES (Kermit)

Discovery Data: Trend drilling. Monday Oil Co.-Bert Fields' (was Wilson Keyes & A. W. Cherry) Central State Bank-Conoco 1, nw nw ne PSL 25, blk B-26, March 5, 1936. **Structure:** Anticline. **Elevation:** 2870 ft. **Production Formations:** Permian (Yates sandy-lime) 2720-2878 ft (discovery). **Remarks:** Discovery made 660 bbl initial. See Kermit listing for statistics.

KEYSTONE

Discovery Data: Subsurface geology combined with geophysics. Gulf Oil Corp.'s Keystone Cattle Co. 1, ne nw nw PSL 10, blk B-3, July 10, 1935. **Structure:** Anticline. **Elevation:** 2950 ft. **Production Formations:** Permian limestone 3200-3550 ft, broken saturation, averaging 125 ft penetration. **Acreage:** Developed, 2900; total, 4000. **Production Jan. 1, 1942:** Daily, 1600 bbls; cumulative, 3,875,300 bbls; estimated reserve, 13,525,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 91; flowing, 67; gas, 1. **Rigs Running May 1, 1942:** 5. **Gravity:** 33 to 40, average 37. **Deepest Test:** Gulf's Keystone 8, swc PSL 13, blk B-2, favorable oil saturation 3915-47 ft; used nitro in limestone, carrying oil stain and odor 4240-4320 ft and also 4391-4448 ft, abnd 4463 ft. **Outlets:** Gulf and Magnolia. **Principal Leaseholders:** M. J. Bashara & Sons-Protho Co., J. T. Barnes et al, Amon G. Carter-Pure Oil Co., W. H. Dunning, Jr., Estate, Falcon Co., Gulf, Wm. Little et al, Sid W. Richardson et al, John R. Sharp et al, and Sinclair Prairie. **Remarks:** Area subject to minor expansion; drilling of inside locations still underway. Considered outstanding prospect for production in Lower Permian, and Sub-Permian. Field divided by Commission order Nov. 17, 1938, creating Keystone-Colby sand area from wells producing from sandy-lime on w flank of structure. More than 50 additional wells likely to be drilled to regular lime pay.

KEYSTONE-COLBY

Occupies w flank of Keystone structure. **Discovery Data:** Routine extension. Sun Oil Co.'s J. B. Walton 1, ne ne se PSL 8, blk B-3, Nov. 21, 1935. **Structure:** Anticline. **Elevation:** 2950 ft. **Production Forma-**

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tions: Permian sandy-lime 3050 to 3320 ft, broken saturation, average 150 ft penetration. **Acreage:** Developed, 6600; total, 8500 (scattered). **Production Data Jan. 1, 1942:** Daily, 4500 bbls; cumulative, 3,964,500 bbls; estimated reserve, 22,436,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 230; flowing, 181; gas, 3. **Rigs Running May 1, 1942:** 6. **Gravity:** 37-39. **Deepest Test:** Magnolia's J. B. Walton-State 20, c nw nw PSL 4, blk B-3, elev 2934 ft, base Permian and top Devonian 7620 ft, abnd in hard chert (Devonian) 8445 ft after testing sulphur water at 4 horizons between 4860 and 5450 ft. **Outlets:** Gulf and Magnolia. **Remarks:** Production occurs in form of horseshoe, centering upon west flank of Keystone lime high and on east edge of Kermit field, while the intermediate has production possibilities. More than 100 additional wells due to be drilled. Keystone-Colby sand area given separate designation Nov. 17, 1938, absorbing portions of Keystone, Kermit and Scarborough fields, and all of the Bashara pool.

LECK

Discovery Data: Geology. Atlantic Refining Co.'s (was H. F. Gibson-Kirk Johnson-Jas. M. Kessler and David Logan) Lum Daugherty 1, c s½ n½ sw PSL 3, blk 74, May 9, 1928. **Structure:** Reef. **Elevation:** 2880 ft. **Production Formations:** Permian limestone 3000 to 3200 ft, alternating gas and oil zones, averaging 45 ft penetration. **Acreage:** 550. **Production Jan. 1, 1942:** Daily, 650 bbls; cumulative, 3,879,000 bbls; estimated reserve, 1,121,000 bbls. **Producing Wells Jan. 1, 1942:** 9; flowing, 1. **Gravity:** 27-30. **Deepest Test:** Empire Gas & Fuel Co.'s Lum Daugherty 1-B, sw se ne PSL 3, blk 74, east offset production, abnd 3780 ft. **Outlet:** Texas-New Mexico. **Principal Leaseholders:** Adams-Hitchcock-Bradley, Atlantic, Cities Service, Sinclair Prairie. **Remarks:** Area defined. Production performance erratic, with few wells registering exceptionally large initial flow oil and gas. Total 16 oil wells drilled.

RICHARDSON-O'BRIEN

Discovery Data: Subsurface and trend. Sid Richardson, Frank Kelsey and Magnolia's O'Brien 1, ne ne ne GMMB&A 50, Blk F, Oct. 15, 1928. **Structure:** Reef. **Elevation:** 2730 ft. **Production Formations:** Permian limestone 2830 to 3030 ft, broken saturation, averaging 125 ft. **Acreage:** 160. **Production Jan. 1, 1942:** Daily, 40 bbls; cumulative, 468,700 bbls; estimated reserve 51,300 bbls. **Producing Wells Jan. 1, 1942:** 3. **Gravity:** 32-34. **Deepest Test:** Prairie O&G Co.'s Morton 1, se sw se PSL Sec 27, Blk B-12, offsetting production, abnd hole full water 3060-3112 ft. **Outlet:** Shell. **Remarks:** Discovery well has flowed and pumped 201,979 bbls oil; currently doing 10 bbls daily without cleanout job in 5 years. Total 6 oil producers drilled. Area defined by failures.

SCARBOROUGH

Discovery Data: Subsurface geology. Shell Oil Co. and Llano Oil Co.'s W. F. Scarborough 1, Center PSL 1, blk C-22, October 19, 1927. **Structure:** Anticline. **Elevation:** 2920 ft. **Production Formations:** Permian sandy-lime 2770 to 3335 ft, average 129 ft penetration. **Acreage:** Developed, 1900; total 2200. **Production Jan. 1, 1942:** Daily, 1700 bbls; cumulative, 6,573,000 bbls; estimated reserve, 4,827,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 134; flowing, 91; gas, 1. **Gravity:** 34-37. **Deepest Test:** Shell and Llano Oil Co.'s Scarborough 5, se sw sw PSL 3, blk C-22, abnd hfw 3564-65 ft. **Outlets:** Magnolia and Texas-New Mexico. **Remarks:** Southwest portion of field ties in with n end of Kermit field. Nominal amount of additional development likely to occur on w and se edges.

WEINER

East of Emperor Deep Field. **Discovery Data:** Geology. Texas Co.'s S. M. Halley 1, swc PSL 7, blk B-11, Sept. 27, 1936. **Structure:** Anticline. **Elevation:** 2790 ft. **Production Formations:** Permian (Colby sandy-lime) 3005 to 3210 ft, average 183 ft penetration. **Acreage:** Developed, 80; total, 320. **Production Jan. 1, 1942:** Daily, 53 bbls; cumulative, 13,850 bbls; estimated reserve, 1,600,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 2; flowing, 1; gas, 1. **Rigs Running April 15, 1942:** 6. **Gravity:** 31-35. **Deepest Test:** Discovery to sulphur water 3499 ft. **Outlet:** Magnolia. **Principal Leaseholders:** Ralph Lowe et al, J. E. Sharp et al, Skelly, Humble, Texas and Sam Weiner et al. **Remarks:** Area given separate pool designation upon completion of Sam Weiner et al's Halley-Texaco 1-A, c n½ nw ne PSL 7 and twin to junked gasser at 3023 ft, Nov. 12, 1941. Actual discovery, currently pumping 7 bbls daily, previously included with Emperor Deep, although more than 200 ft deeper pay zone. Weiner pool may extend 3 mi n-s, possibly ½-mi width and to be one of most active drilling areas in county remainder 1942.

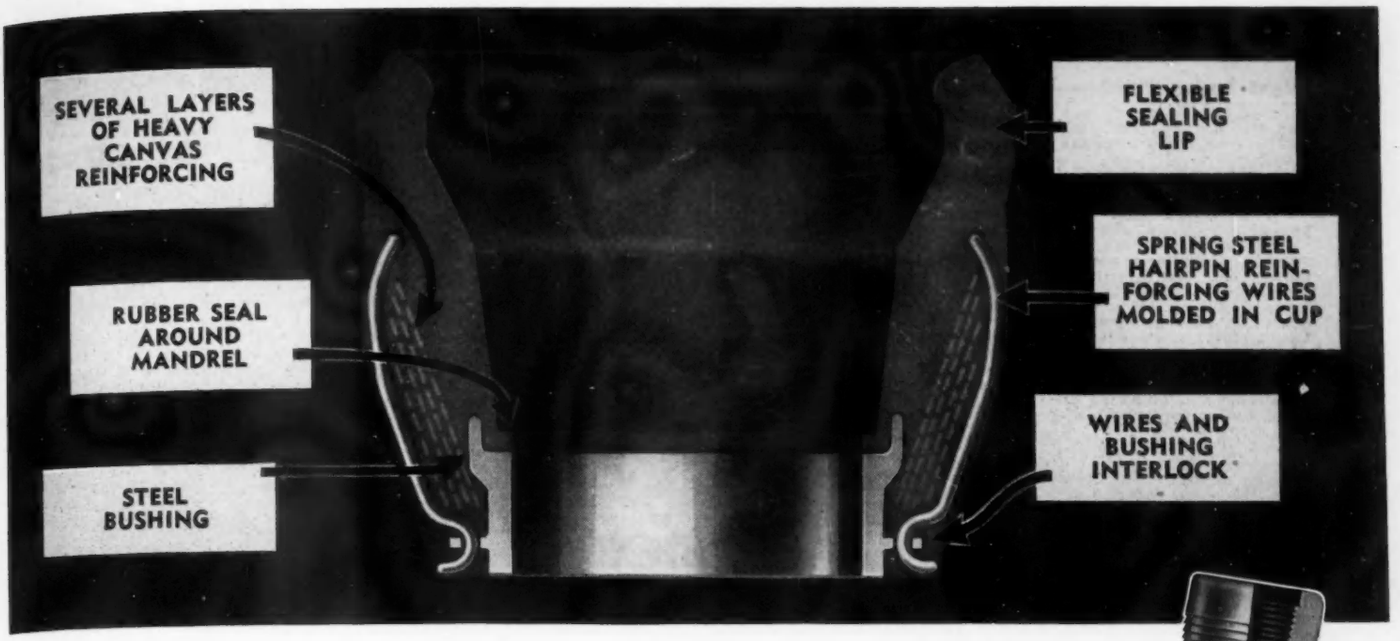
YOAKUM COUNTY

BENNETT (Wasson)

Discovery Data: Geophysical survey combined with surface geology. Honolulu Oil Corp. and Cascade Petroleum Co.'s L. P. Bennett 1, c ne ne Sec 678, Blk D, J. H. Gibson Sur, April 6, 1936. **Structure:** Anticline. **Remarks:** Discovery was first test in county to drill to "big lime" in Permian, being 28 miles from nearest such test and 33 miles northeast Hobbs, then nearest producing area. Humble provided pipe line connection Nov. 1, 1937.

OWNBY

Most northerly production in county. **Discovery Data:** Geology and trend. Geo. P. Livermore, Inc.'s E. Ownby-Shell 1, c ne ne Sec 502, Blk D, J. H. Gibson Sur, March 28, 1941. **Structure:** Anticline. **Elevation:** 3560 ft. **Producing Formation:** Permian (San Andres) 5227 to 5355 ft, av 95-ft penetration. **Acreage:** 160. **Production Jan. 1, 1942:** Daily, 100 bbls; cumulative, 25,415 bbls; estimated reserve, 1,255,000 bbls. **Producing Wells Jan. 1, 1942:** 4, flowing. **Deepest Test:** Shell's Hammer 1, swc Sec 490, ne offset discovery, td 5700 ft, pb for 2nd largest well. **Gravity:** 30-35. **Outlets:** Shell, and trucks to Humble. **Principal Leaseholders:** Drilling & Exploration Co., Inc., Geo. P. Livermore, Inc., Shell, Sinclair Prairie, Magnolia, Humble, Devonian Oil Co., J. C. Maxwell and Fred M. Allison, Mid-Continent. **Remarks:** Situated 2⅞ miles northeast of Waples-Platter pool, and intermediate acreage almost certain to be productive in view of subsurface control from outlying failures along this trend and geophysical surveys, thereby pointing to possible major oil area. Drilling & Explora-


SEVERAL LAYERS OF HEAVY CANVAS REINFORCING
RUBBER SEAL AROUND MANDREL
STEEL BUSHING
FLEXIBLE SEALING LIP
SPRING STEEL HAIRPIN REINFORCING WIRES MOLDED IN CUP
WIRES AND BUSHING INTERLOCK

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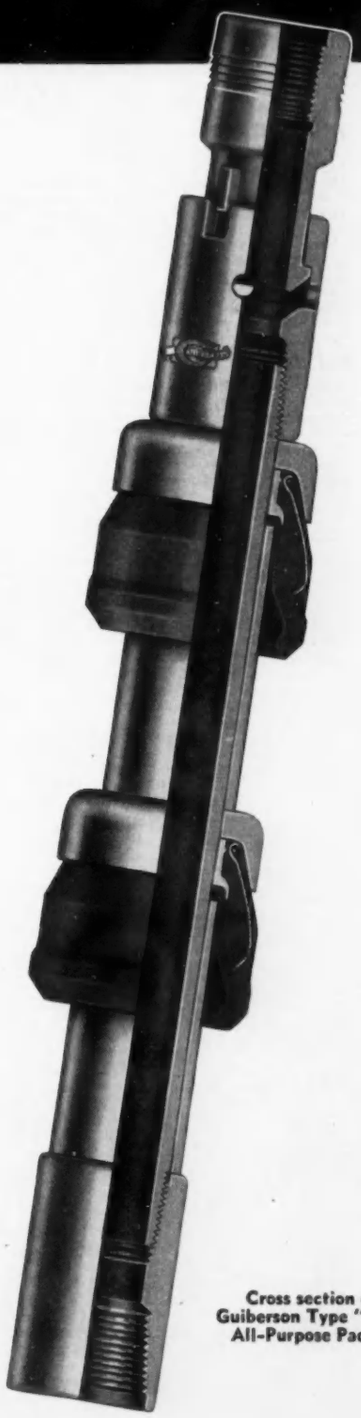

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tion Co., assumed continuous development obligations in connection with checkerboard farmouts from Shell, so competitive drilling is in offing.

WAPLES-PLATTER

2½ miles northeast Wasson field. **Discovery Data:** Combined, geology, geophysics and trend. Shell Oil Co.'s Waples-Platter 1, sw sw nw Sec 616, Blk D, J. H. Gibson Sur, May 20, 1939, recomplete July 25, 1939. **Structure:** Anticline. **Elevation:** 3567 ft. **Production Formations:** Permian (San Andres) 5200 to 5305 ft, average 92-ft penetration. **Acreage:** Developed, 80; total, 120. **Production Jan. 1, 1942:** Daily, 50 bbls; cumulative, 42,118 bbls; estimated reserve, 438,000 bbls. **Producing Wells Jan. 1, 1942:** 2; flowing, 1. **Rigs Running May 1, 1942:** 1. **Gravity:** 30-32. **Deepest Test:** Discovery to sulphur water 5380 ft. **Outlet:** Humble. **Principal Leaseholders:** Drilling & Exploration Co., Devonian Oil Co., Forest Development Corp., Magnolia, Shell, Sloan-Zook, Southern Pet. Exploration Co., Snowden & McSweeney Co., and Tide Water Associated. **Remarks:** This area due to expand northeast and connect with Ownby pool, 2⅞ miles northeast and on same geological feature, and major oil producing area due to be developed. Drilling & Exploration Co. assumed continuous drilling obligation, now under way, on Shell's farmed-out 80-acre tracts near and between 2 pools.

WEST

Discovery Data: Geology, Bohago Oil Corp.-Bond Oil Corp.'s M. West 1, c se nw Sec 606, Blk D, J. H. Gibson Sur, August 22, 1937. **Structure:** Anticline. **Elevation:** 3660 ft. **Production Formations:** Permian (San Andres) 5122-5255 ft (broken saturation). **Acreage:** 40. **Production Jan. 1, 1942:** Daily, 30 bbls; cumulative, 36,150 bbls; estimated reserve, 64,000 bbls. **Producing Wells Jan. 1, 1942:** 1, flowing. **Gravity:** 32. **Deepest Test:** Discoverers' J. L. West 1, sec Sec 607, 1½ miles southeast, abnd 5503 ft, showing small volume oil and sulphur water. **Outlet:** Shell. **Remarks:** This single-well pool is 3 miles northwest and isolated by failures from nearest production in Wasson field. Development terminated after completion 5 failures within 1½ miles radius, although production performance of discovery warrants offset drilling.

NEW MEXICO

LEA COUNTY

ARROWHEAD

T-21-22s: R-36-37e. **Discovery Data:** Continental Oil Co.'s State 1-J-2, c nw ne 2-22s-36e, May 24, 1938. **Structure:** Anticline. **Elevation:** 3520 ft. **Production Formations:** Permian (San Andres) 3612 to 3868 ft, average 75 ft penetration. **Acreage:** 4040. **Production Jan. 1, 1942:** Daily, 4386 bbls; cumulative, 3,019,555 bbls; estimated reserve, 25,260,000 bbls. **Producing Wells Jan. 1, 1942:** 101 flowing. Cumulative water production to Jan. 1, 1942: 9940 bbls; gas, 4½ billion ft plus. **Rigs Running May 1, 1942:** 1. **Gravity:** 34-36. **Deepest Test:** Gulf's State-Mattern 2, sw sw se 24-21s-36e, ½-mi n production, flowed sulphur water 3934-4150 ft, pb for gasser. **Outlets:** Shell and Texas-New Mexico. **Remarks:** Production due to be expanded to n and nw.

CAPROCK

Discovery Data: Geology. George P. Livermore's (was Great Western Producers') State 1-D-a, c se se 30-12s-32e, Nov. 26, 1940. **Structure:** Anticline. **Elevation:** 4383 ft. **Production Formations:** Permian (San Andres) 3025-52 ft. **Proven Acreage:** 40. **Production Jan. 1, 1942:** Dormant; cumulative, 1546 bbls. **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 36. **Deepest Test:** Discovery to 4385 ft, and pb. (San Andres). **Outlet:** Truck. **Remarks:** Discovery pumped 16 bbls initial, and not operated due to small yield and isolation from market.

COOPER

T-24-25s: R-36e; sec 2 & 3-25s-36e. **Discovery Data:** Wildcat gasser in upper Permian deepened to oil. General Crude Oil Co. (was Cranfill & Reynolds) and Magnolia Petroleum Co.'s A. E. Meyers 1, nec se 22-24s-36e, July 16, 1929, as 70,000,000-ft gasser, td 3438 ft; deepened to 3508 ft re-complete April 13, 1934. **Structure:** Anticlinal reef. **Elevation:** 3300 ft. **Production Formations:** Permian limestone 3410 to 3699 ft, average 35 ft penetration. **Acreage:** 4120. **Production Jan. 1, 1942:** Daily, 3118 bbls; cumulative, 13,096,849 bbls; estimated reserve 9,563,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 87; flowing, 37; gas, 11. Cumulative water production to Jan. 1, 1942: 108,284,512 bbls; gas, 106 billion plus. **Rigs Running May 1, 1942:** 1. **Gravity:** 29-30. **Deepest Test:** Humble's Hunter 1, c nw nw 24-24s-36e, pb from 3757 ft for gas. **Outlets:** Gulf, Humble and Texas-New Mexico. **Remarks:** More than 8 bbls water produced per bbl oil, and 13 oil wells have been depleted. Nominal amount development on edges of field will occur when conditions warrant.

CORBIN

T-18s: R-33e. **Discovery Data:** Geology, Helmerich & Paynes' (was Texas Co.'s) M. A. Corbin 1, c nw sw 10-18s-33e, June 28, 1938. **Structure:** Anticline. **Elevation:** 3980 ft. **Production Formations:** Permian limestone 4255 to 4350 ft, average 63 ft penetration. **Acreage:** Developed, 80; total, 120 (gas, 40). **Production Jan. 1, 1942:** Daily, 35 bbls; cumulative, 26,624 bbls; estimated reserve, 213,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 2; gas, 1. Cumulative water production to Jan. 1, 1942: 3107 bbls. **Gravity:** 30-31. **Deepest Test:** Discovery pb from water sand 5115-18 ft for completion as pumper 4258-4319 ft. **Outlet:** Texas-New Mexico. **Principal Leaseholders:** Helmerich & Payne, and Texas Co. **Remarks:** No market for the gasser, ne offset to oil discovery, and rated 13,500,000 ft sweet gas open flow.

CULWIN

T-19s-R-32e. **Discovery Data:** Subsurface geology and trend. Culbertson & Irwin, Inc.-Southern California Pet. Corp.'s B. V. Lynch-Texaco 1, c sw sw 21-19s-32e, Jan. 24, 1942. **Structure:** Reef. **Elevation:** 3580 ft. **Production Formations:** Permian limestone 2740-51 ft. **Acreage:** 40. **Rigs Running May 1, 1942:** 1. **Gravity:** 24.1. **Outlet:** Truck. **Principal Leaseholders:** Discoverers control area. **Remarks:** Situated 4 mi n of Halfway pool, both involving same type of narrow structure.

EAVES (South Jal)

T-25-26s; R-36 and W 1/3 of 37e. **Discovery Data:** Geology. Continental et al's (was Marland et al's) Eaves 1, sw sw se 19-26s-37e, gas

Development Data New Mexico Counties Other Than Lea County

COUNTY AND FIELD	PRODUCING FORMATION DATA: Discov. Date	Range of Depths	Penetration	Name and/or Age	Proved Acreage	Total Producing Oil Wells	CRUDE PRODUCTION: Jan. Daily Allowable	Cumulative Yield: To Date	Cumulative Yield: Per Acre	DEEPEST TEST: Depth	DEEPEST TEST: Formation Reached	Gravity Average
Eddy County*												
Artesia	1923	1823–2005	..	San Andres (Perm.)	7200	180	837	4,637,034	645	4035	San Andres	29.5
Barber	1936	1459–1466	..	Capitan (Perm.)	600	16	545	163,794	270	1953	Capitan	20.5
Black River	1937	2406–2545	..	Delaware (Perm.)	....	Abd.	....	2,922	....	2885	Delaware	39.5
Dayton	1940	1022–1105	29	San Andres (Perm.)	400	10	114	38,889	97	2545	San Andres	36
Getty	1928	1365–1380	15	Capitan (Perm.)	200	5	220	424,122	2115	6683	Permian	24
Grayburg-Jackson	1936	3779–3827	48	Permian	7040	....	5437	10,109,357	1440	4383	San Andres	37
High Lonesome	1939	2500–2542	42	San Andres (Perm.)	280	7	91	21,092	75	3744	San Andres	36.2
Leo	1939	3000–3200	..	Permian	240	6	55	24,509	100	3500	Permian	35
Leonard	1929	2779–2860	..	Permian	1840	46	985	1,165,362	633	3591	San Andres	28.5
Loco Hills	1939	2415–2900	..	Permian	7240	181	6553	4,936,351	680	3860	San Andres	33
McMillan	1938	1150–1180	30	Carlsbad (Perm.)	40	Idle	....	311	....	3305	San Andres	29
Red Lakes	1924	1904–1930	26	Carlsbad (Perm.) Deep								
	1939	476– 503	27	San Andres (Perm.) Shallow	2520	63	760	502,688	200	2905	San Andres	29
Robinson	1926	3919–4009	80	Permian	520	13	199	394,330	760	4359	San Andres	31
Shugart	1938	3454–3775	..	Permian	1160	29	766	477,356	410	4340	San Andres	33
Chaves County:												
Comanche	1936	–1283	..	San Andres (Perm.)	120	3	15	8,190	....	1400	Capitan	28.5
McKinley County:												
Hospah	1927	1640–1651	11	Hospah (U. Cret.)	240	13	....	384,716	1600	3282	Dakota	29.7
San Juan County:												
Aztec-Bloomfield	1924	750–1075	25	Farmington (U. Cret.)	90	10	10	60,031	670	2665	Lewis Shale	55
Hogback	1922	705– 791	9	Dakota (U. Cret.)	160	7	200	2,100,726	13100	1225	McElmo	60
Rattlesnake	1924	784– 808	24	Dakota (U. Cret.)	640	42	175	4,522,575	7075	7407	Ozite (Cambrian)	60
Table Mesa	1925	1325–1337	7	Dakota (U. Cret.)	100	6	85	574,258	5740	3010	U. Triass.	56.5
					30,630	637		30,548,613				

* Old depleted Eddy County fields have produced an additional 376,257 barrels.

discovery, Dec. 1928; same group's McCallister 1-A, sw sw se 24-26s-36e, oil discovery, Sept. 13, 1929. **Structure:** Reef. **Elevation:** 2950 ft. **Production Formations:** Permian limestone 2938 to 3285 ft, average 40 ft penetration. **Acreage:** Developed, 1500; total, 3000 (scattered). **Production Jan. 1, 1942:** Daily, 931 bbls; cumulative, 2,851,968 bbls; estimated reserve, 2,149,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 23; flowing, 13; gas, 3. Cumulative water production to Jan. 1, 1942: 5,000,000 bbls; gas, 1 billion ft plus. **Gravity:** 27-32. **Deepest Test:** Cranfill-Reynolds-Magnolia et al's State 1-A, ne se se 23-26s-36e, abnd hfw 3465-3500 ft. **Outlets:** Gulf and Texas-New Mexico. **Remarks:** Production: extends north-south 5 mi, and sparsely developed due to erratic pay, with dry holes within producing area and dry gassers adjacent to oil wells. Five wells in 31-25s-37e officially prorated under Jal field, but involve n portion Eaves structure and included under latter. In Eaves proper, 4 oil wells depleted and 1 oil well converted into gasser.

EUNICE

T-20-21-22s: R-35-36e. **Discovery Data:** Surface geology combined with trend drilling. Continental Oil Co. et al's (was Marland Oil Co. et al's) Lockhart 1-B-31, ne nw nw 31-21s-36e, March, 1929. **Structure:** Anticline. **Elevation:** 3550 ft. **Production Formations:** Permian limestone, 3730 to 4000 ft, average 79 ft penetration. **Acreage:** 20,040. **Production Jan. 1, 1942:** Daily, 19,816 bbls; cumulative, 53,426,668 bbls; estimated reserve, 106,793,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 491; flowing, 429; gas, 4. Cumulative water production to Jan. 1, 1942: 11,378,573 bbls; gas, 216,206,923,000 ft. **Gravity:** 32-33. **Deepest Test:** Marland Production Co. et al's Reed 1, ne ne sw 22-20s-36e, mi w production, abnd 4420 ft. **Outlets:** Atlantic, Gulf, Humble, Shell and Texas-New Mexico. **Remarks:** Seven oil wells abnd and 3 converted into gassers. Eunice ties into Monument field with continuous production, and also continues s to hookup with South Eunice. Development virtually terminated, except for deep explorations.

EUNICE, SOUTH

T-22s-R-35-36e. **Discovery Data:** Extension from Eunice. Cities Service Oil Co.'s (was Empire's) Closson 1, ne nw se 6-22s-36e, May 28, 1930. **Structure:** Anticline. **Elevation:** 3600 ft. **Production Formations:** Permian limestone 3716 to 3884 ft, average 70 ft penetration. **Acreage:** 3040. **Production Jan. 1, 1942:** Daily, 2768 bbls; cumulative, 4,659,706 bbls; estimated reserve, 16,620,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 75; flowing, 71; gas, 5. Cumulative water production to Jan. 1, 1942: 843,272 bbls; gas, 17,602,306,000 ft. **Gravity:** 32-33. **Deepest Test:** Ohio Oil Co.'s State-McDonald 5, c se nw 16-22s-36e, drilled to 6202 ft, with nominal oil saturation at intervals in Lower Permian. **Oil Outlets:** Shell and Texas-New Mexico. **Remarks:** South Eunice is a continuation of the original Eunice lime area, and only partially developed due to owners of large lease tracts confining drilling to necessary offsets. No failures within or near oil production; all oil wells producing.

EUNICE, WEST

T-21s-R-34-35e. **Discovery Data:** Subsurface geology. Wilson Oil Co.'s State 1, c sw ne 7-21s-35e, Oct. 28, 1938, situated mi sw of Empire Gas & Fuel Co.'s State 1-B, completed July, 1928, pumping 85 bbls initial 3826-35 ft and later depleted. **Structure:** Anticline. **Elevation:** 3670 ft. **Production Formations:** Permian limestone 3680-3860 ft (irregular), average 40 ft penetration. **Acreage:** 680. **Production Jan. 1, 1942:** Daily, 613 bbls; cumulative, 377,377 bbls; estimated reserve, 3,703,000 bbls. **Producing Wells Jan. 1, 1942:** 16; flowing, 5. Cumulative water production to Jan. 1, 1942: 28,570 bbls; gas, 2,039,000 ft. **Rigs Running May 1, 1942:** 3. **Gravity:** 31-32. **Deepest Test:** Empire's State 3-B, sw ne se 5-21s-35e, abnd Feb. 5, 1930, in sulphur water 4660-95 ft. **Outlet:** Texas-New Mexico. **Principal Leaseholders:** Wilson Oil Co. and Continental. **Remarks:** Cumulative production includes 60,000 bbls produced by Empire's original discovery. One oil well depleted.

HALFWAY

T-20s-32e. **Discovery Data:** Geology subsurface. Argo Oil Corp.'s (was Frank Farley-Peck & Croft's) State-Texaco 1-A, c ne sw 16-20s-32e, Oct. 18, 1939. **Structure:** Anticline. **Elevation:** 3500 ft. **Production Formations:** Permian limestone 2615-90 ft, average 8 ft penetration. **Acreage:** 360. **Production Jan. 1, 1942:** Daily, 396 bbls; cumulative, 177,988 bbls; estimated reserve, 1,981,000 bbls. **Producing Wells Jan. 1, 1942:** 9. Cumulative water production to Jan. 1, 1942: 41,020 bbls. **Gravity:** 25-26. **Deepest Test:** Western Drilling & Engineering Co.'s State 1, se ne ne 16-20s-32e, less than ½-mi east production, abnd Sept. 1931, at 4013 ft. (San Andres). **Outlet:** Texas-New Mexico. **Principal Leaseholders:** Argo Oil Corp., and North Shore Corp. **Remarks:** Ten failures within 1½ mi radius pool. This type production affords high yield per acre, although no appreciable volume gas is present.

HARDY

T-21 S-37e. **Discovery Data:** Geology. Barnsdall Oil Co.'s Hardy 1, c se ne 29-21s-37e, March 27, 1936. **Structure:** Anticline. **Elevation:** 3450 ft. **Production Formations:** Permian sandy-lime 3555 to 3835 ft, average 98 ft penetration. **Acreage:** Developed, 4840; total, 6000. **Production Jan. 1, 1942:** 1961 bbls; cumplative, 3,949,517 bbls; estimated reserve, 12,990,000 bbls. **Producing Wells Jan. 1, 1942:** 120; flowing, 99. Cumulative Water Production to Jan. 1, 1942: 31,639 bbls; gas, 14,835,058,000 ft. **Gravity:** 36-38. **Deepest Test:** Texas Co.'s Alexander 1, C Lot 3, 7-21s-37e, north sector of pool, producer at 3835 ft. **Outlets:** Shell and Texas New-Mexico. **Remarks:** No dry hole in this pool, which adjoins Penrose field to north with continuous production. One oil well depleted. Production centers upon southwest corner and northwest corners township 21s-37e, and intermediate acreage has production possibilities although oil recovery due to be subnormal.

HOBBS

T-18-19s; R-37-38e. **Discovery Data:** Geophysical. Stanolind Oil & Gas Co.'s (was Midwest Refining Co.'s) State 1, nec 9-19s-38e, Nov. 1928 (regular pay); Tide Water Associated Oil Co.'s State 1, se se ne 14-18s-37e, Dec. 30, 1935 (Bowers sand). **Structure:** Anticline. **Elevation** 3660 ft. **Production Formations:** Permian limestone 3975 to 4253 ft, average 127 ft penetration. Permian (Bowers sand) 3353-59 ft (single well). **Acreage:** 10,560. **Production Jan. 1, 1942:** Daily 10,917 bbls; cumulative, 97,876,942 bbls; estimated reserve, 60,523,000 bbls. **Producing Wells Jan. 1, 1942:** Oil 261, flowing 231, gas 4. Cumulative water production to Jan. 1, 1942: 26,324,151 bbls; gas, 204,989,057,000 ft. **Gravity:** 31 to 36, average 35. **Deepest Test:** Humble's Hardin 1, sw sw nw 18-18s-38e, offset most northerly producer, abnd 4720 ft. **Outlets:** Atlantic, Humble and Shell. **Remarks:** Proration unanimously observed since July 10, 1930; produced 1,050,000 bbls oil prior to proration. Large scale drilling launched mid-1930. Regular Permian zone development completed. When wells depleted a sizeable number will be plugged back and pipe perforated for recompletion in Bowers sand, which affords natural flowing wells, 42-gr oil, with high-pressure sweet gas from 3100 to 3400 ft level. Only one well completed in Bowers sand, which has not been given consideration in calculating crude reserves. Four oil wells converted to gas. No oil wells abandoned.

JAL

25s-36e. **Discovery Data:** Geological trend. Skelly Oil Co.'s Joyner 1, ne ne se 26-25s-36e, Jan. 30, 1929. **Structure:** Dolomite reef. **Elevation:** 3150 ft. **Production Formations:** Permian limestone 3256 to 3462 ft, average 34 ft penetration. **Acreage:** 2000 (scattered). **Production Data Jan. 1, 1942:** Daily 383 bbls; cumulative 5,238,084 bbls; estimated reserve 462,000 bbls. **Producing Wells Jan. 1, 1942:** Oil 18, flowing 6, gas 8. Cumulative water production to Jan. 1, 1942: 33,910,000 bbls; gas, 5 billion ft. **Gravity:** 28-30. **Deepest Test:** Gulf's State-Humphries 1, nw nw sw 25-25s-36e, abnd flowing 3500 bbls sulphur water, td 3550 ft. **Outlet:** Texas-New Mexico. **Remarks:** Given first pipe line connection May, 1929. Development of this narrow pool provided new production trend that resulted in the discovery of Eaves pool to south and chain of fields to north. Discovery well has produced 241,191 bbls oil and 13,323 bbls water, and produces 18 bbls oil daily. Eight wells originally completed as oil producers converted to gassers. Five wells in 31-25s-37e officially credited to Jal, but included with Eaves since actually on the latter structure. Total of 17 oil producers in Jal proper depleted and abandoned.

LANGLIE

All T-25s-R-37e, except Sections 31 and 32, and Sec 1 and 2-26s-37e. **Discovery Data:** Trend. Anderson-Prichard Oil Corp.'s (was R. H. Henderson's) Langlie 1, c se se 8-25s-37e, July 22, 1935 (oil discovery); Leonard & Levers' Justis 1, c se ne 19-25s-37e, Jal townsite (gas discovery) June, 1931. **Structure:** Anticline. **Elevation:** 3150 ft. **Production Formations:** Permian sandy-lime 3165 to 3590 ft, average 133 ft penetration. **Acreage:** 8400 (scattered). **Production Jan. 1, 1942:** Daily 3815 bbls; cumulative 6,803,098 bbls; estimated reserve 22,597,000 bbls. **Producing Wells Jan. 1, 1942:** Oil 126, flowing 117, gas 22. Cumulative water production to Jan. 1, 1942: 9,553,533 bbls, gas 62 billion ft plus. **Gravity:** 38-40. **Deepest Test:** Gulf's McBuffington 1, c nw sw 13-25s-37e, mile east oil production, plugged back from 3903 ft for gasser 3170-3370 ft. **Outlets:** Shell, and Texas-New Mexico. **Remarks:** Officially credited with 5000 acres, based upon completed oil wells. Comparatively small crude yield per acre hinders continuation of development, which will be resumed if price posting and allowables justify same. Four oil wells converted into gassers and 1 oil well depleted.

LOVINGTON

T-16-17-R-36-37e. **Discovery Data:** Subsurface geology. Skelly Oil Co.'s State 1-N, c nw ne 36-16s-36e, Jan. 24, 1939, as first oil well, but preceded by Westmount Oil Co.'s State-Amerada 1, near c nw ne 12-17s-36e, Dec. 5, 1938, as 12,800,000 ft dry sweet gas, although partially junked. **Structure:** Anticline. **Elevation:** 3830 ft. **Production Formations:** Permian limestone 4600-5110 ft, average 312 ft penetration. Permian brown lime 3230-50 ft and 3891-3911 ft (dry gas on south edge field). **Acreage:** Developed, 1600; total, 1800. **Production Jan. 1, 1942:** Daily, 1698 bbls; cumulative, 1,180,941 bbls; estimated reserve, 8,419,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 40; flowing, 29; gas, 2. Cumulative water production to Jan. 1, 1942: 8,318 bbls; gas: 936,795,000 ft. **Gravity:** 34-35. **Deepest Test:** Magnolia's State 1-Q, c sw ne 36-16s-36e, within pool, 5110 ft. Continental and Herschbach Drilling Co.'s State 1-K, c sw sw 29-16s-37e, ⅞ mile northeast production, abnd 5303 ft, no water, August 18, 1938, logged Permian shows that paved way for discovery. **Outlet:** Texas-New Mexico. **Principal Leaseholders:** Amerada, Barnsdall, Magnolia, Repollo, Skelly, Stanolind, Tide Water Associated, Fred Turner Jr. et al, United Producers, Inc., and L. H. Wentz et al. **Remarks:** Area subject to minor extensions.

LYNCH

T-20-21s:R-34e. **Discovery Data:** Surface geology. Texas Co.'s B. Lynch 1, nwc se 34-20s-34e, March 21, 1929. **Structure:** Anticline. **Elevation:** 3700 ft. **Production Formations:** Permian limestone 3719 to 3795 ft, average 33 ft penetration. **Acreage:** 660 (scattered). **Production Jan. 1, 1942:** Daily, 458 bbls; cumulative, 6,848,453 bbls; estimated reserve, 1,152,000 bbls. **Producing Wells Jan. 1, 1942:** 11. Cumulative water production to Jan. 1, 1942: 5,973,646 bbls, includes 2 outside wells. **Gravity:** 29-30. **Deepest Test:** Cranfill-Reynolds Co.-Magnolia et al's State 1-D, 2285 ft from n and 2310 ft from w lines 3-21s-33e, abnd flowing sul w 4040-46 ft. **Outlet:** Texas-New Mexico. **Principal Leaseholders:** General Crude Oil Co. and Texas Co. **Remarks:** In contrast to most Lea County areas, this pool required pumping units at start due to absence of gas, and recovery per acre has been outstanding. Two producers have been plugged. North and Northwest Lynch areas given separate listing.

LYNCH, NORTH

T-20s-34e. **Discovery Data:** Geology. Texas Co.'s J. S. Lea 1, swc nw 14-20s-34e, Sept. 5, 1934. **Structure:** Anticline. **Elevation:** 3650 ft. **Production Formations:** Permian limestone 3556 to 3579 ft. **Acreage:** 40. **Production Jan. 1, 1942:** Daily, 7 bbls; cumulative, 58,420 bbls; estimated reserve, 5000 bbls. **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 37-38. **Deepest Test:** Texas Co.'s Elliott 1, c se sw 11-20s-34e, abnd 3861 ft. **Outlet:** Texas-New Mexico. **Principal Leaseholders:** Texas Co.

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Remarks: Four failures surround the single producer, which is 2½ miles north of Lynch pool.

LYNCH, NORTHWEST

3¼ miles northwest Lynch field. **Discovery Data:** Random drilling. Cities Service Oil Co.'s (was Hendersno-Dexter et al's) Jewett-McDonald 1, sec 18-20s-34e, June 12, 1929. **Structure:** Anticline. **Elevation:** 3631 ft. **Production Formations:** Permian sandy-lime 3350-3587 ft (broken saturation). **Acreage:** 40. **Production Jan. 1, 1942:** Daily, 16 bbls; cumulative, 96,081 bbls; estimated reserve, 29,000 bbls. **Producing Wells Jan. 1, 1942:** 1. **Gravity:** 34-35. **Deepest Test:** Discovery carried to sulphur water 3609-12 ft, plugged back. **Outlet:** Texas-New Mexico. **Principal Leaseholder:** Cities Service. **Remarks:** Nearby dry holes, including east offset, and small yield of this single-well pool virtually eliminates same for further prospecting.

LYNN

T-23s-R-36e. **Discovery Data:** Random drilling. Texas Pacific Coal & Oil Co.'s State 2-A, nwc se 21-23s-36e, 10-13-29 as first oil well 3699-3757 ft, but preceded by Continental Oil Co. et al's (was Marland et al's) Lynn 1, nwc se 26-23s-36e, first gasser, 30,000,000 ft dry gas, 3180-3650 ft, March 13, 1929. **Elevation:** 3400 ft. **Production Formations:** Permian limestone 3540 to 3790 ft, average 71 ft penetration. **Acreage:** 1320. **Production Jan. 1, 1942:** Daily, 1082 bbls; cumulative, 1,647,295 bbls; estimated reserve, 6,273,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 29; flowing, 24; gas, 9. **Rigs Running May 1, 1942:** 1. Cumulative water production to Jan. 1, 1942: 2,544,312 bbls; gas: 7½ billion ft plus. **Gravity:** 31-36. **Deepest Test:** Texas Pacific Coal & Oil Co.'s State 1, sec sw 22-23s-36e, tested oil-saturated lime 4234-40 ft without results, total depth 5094 ft, plugged back to regular gas. **Outlets:** Humble and Texas-New Mexico. **Principal Leaseholders:** Atlantic-Kirby, American Republics, Barnsdall, Brewer Drilling Co., Continental et al, Culbertson & Irwin, General Crude, Gulf, Shell, Texas, Texas Pacific and Western Gas Co. **Remarks:** Several score additional wells eventually will be added, with possibility of oil production linking with South Eunice field, while considerable area available for dry gas explorations. Three oil wells converted to gas, and one depleted and plugged.

MALJAMAR

T-16-17-18s-R-32e. **Discovery Data:** Random drilling. Maljamar Oil & Gas Corp.'s M. E. Baish 1, nec 21-17s-32e, July, 1926, main pay 4000-4150 ft; Baish 5, c sw ne 21-17s-32e, Dec. 12, 1935, shallow oil discovery 2362-68 ft; Barney Cockburn et al's State-Westall 1, Dec. 30, 1941, deep pay 4640-4733 ft. **Structure:** Anticline. **Elevation:** 4000 ft. **Production Formations:** Permian 2330 to 2368 ft, average 14 ft penetration. Permian 3100 to 3200 ft (gas). Permian 3475 to 3490 ft, average 29 ft penetration. Permian (main pay) 3538 to 4270 ft, average 137 ft penetration. Permian 4640 to 4733 ft (single well). **Acreage:** Developed, 6320; total, 7000. **Production Jan. 1, 1942:** Daily, 6160 bbls; cumulative, 3,829,647 bbls; estimated reserve, 33,090,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 158; flowing, 147; gas, 2. Cumulative gas yield to Jan. 1, 1942: 16,561,929,000 ft. **Rigs Running May 1, 1942:** 12. **Gravity:** 36-39. **Deepest Test:** Southern Union Production Co.'s Pearsall 2-B, c se nw 34-17s-32e, south edge main producing area, abnd in sulphur water 5150 ft. **Outlets:** Murchison & Closuit Pipe Line Co. and Texas-New Mexico. **Remarks:** Maljamar, oldest producing area in Lea County, received the bulk of its development since 1938; main oil zone in Permian white limestone 3990-4109 ft; other oil and gas pays involve small areas upon the broad anticline. One marginal pumper in North Maljamar and 6 wells in South Maljamar included with Maljamar proper, although prorated as separate units.

MATTIX

T-24s-R-37e. **Discovery Data:** Surface geology. Amon G. Carter et al's G. H. Mattix 1, c se nw 3-24s-37e, July 19, 1935. **Structure:** Anticline. **Elevation:** 3250 ft. **Production Formations:** Permian sandy-lime 3285 to 3770 ft, average 146 ft penetration. **Acreage:** Developed, 6320; total, 12,000 (overall). **Production Jan. 1, 1942:** Daily, 3,898 bbls; cumulative, 6,101,710 bbls; estimated reserve, 16,018,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 156; flowing, 144; gas, 10. Cumulative water production to Jan. 1, 1942: 126,510 bbls; gas, 32,394,700,000 ft. **Gravity:** 36 to 39. **Deepest Test:** Discovery carried to sulphur water 3908-13 ft, plugged back for completion in 3400-3600-ft sandy-lime. **Outlets:** Humble, Shell, and Texas-New Mexico. **Remarks:** This sandy-lime area embraces north portion of structure that also involves Langlie field and extends northwest to tie into Cooper and to correct with Skelly pool. Scores of additional wells will eventually be drilled on the large leases held by few wells. Two oil wells depleted and 3 converted to gassers.

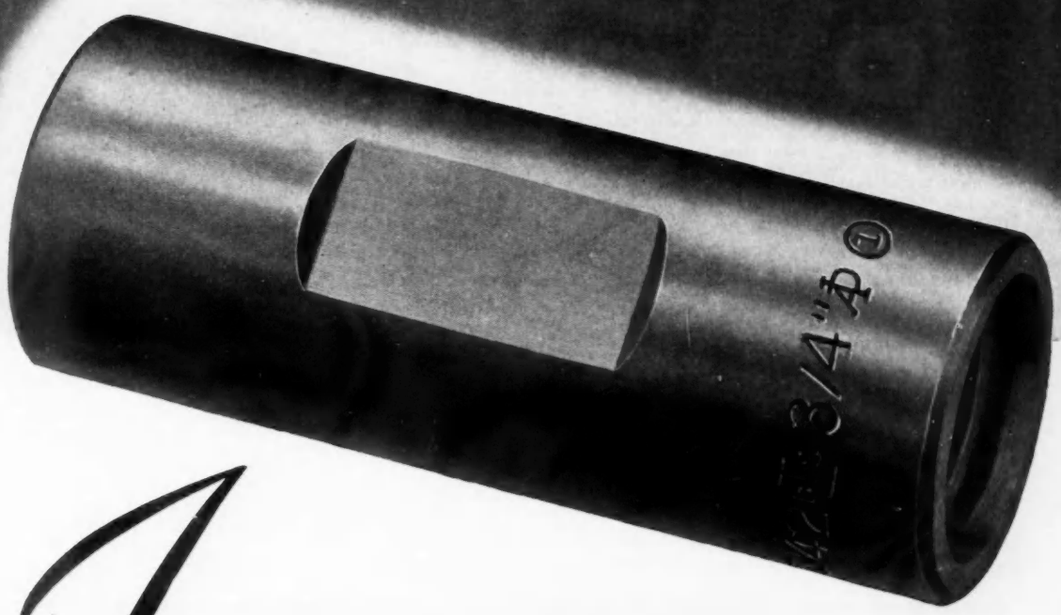
MONUMENT

T-19-20s:R-36-37e. **Discovery Data:** Geology, combined with geophysics. Amerada Petroleum Corp.'s State 1-D, c nw nw 1-20s-36e, Feb. 23, 1935. **Structure:** Anticlinal fold. **Elevation:** 3579 ft. **Production Formations:** Permian limestone 3740 to 4050 ft, average 88 ft penetration. **Acreage:** 20,080. **Production Jan. 1, 1942:** Daily, 20,879 bbls; cumulative, 46,289,201 bbls; estimated reserve, 134,431,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 497; flowing, 482; gas, 2. Cumulative water production to Jan. 1, 1942: 1,594,936 bbls; gas, 126 billion ft plus. **Rigs Running May 1, 1942:** 1. **Gravity:** 32-37, average 33. **Deepest Test:** Skelly Oil Co.'s State-Mon 3, c nw nw 13-19s-36e, abnd 4500 ft. **Outlets:** Atlantic, Gulf, Texas-New Mexico Pipe Line, Shell and Warren Petroleum Co. **Remarks:** Monument embraces upper end of single structure that also includes Eunice and South Eunice areas. Future development to be confined to comparatively few tests on edges structure. Seven failures adjacent to and within mile of production, and 5 oil wells abandoned.

PENROSE

T-22s-R-37e. **Discovery Data:** Geology. N. G. Penrose and Rowan-Nichols Oil Co.'s Cary 1, c nw sw 22-22s-37e, Dec. 13, 1935. **Structure:** Anticline. **Elevation:** 3300 ft. **Production Formations:** Permian sandy-lime 3534 to 3890 ft, average 64 ft penetration. **Acreage:** 7600. **Production Jan. 1, 1942:** Daily, 3131 bbls; cumulative, 6,931,070 bbls; estimated reserve, 19,669,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 190; flowing, 161. Cumulative water production to Jan. 1, 1942: 62,925 bbls; gas, 34.6 billion ft plus. **Gravity:** 36-38. **Deepest Test:** Gulf Oil Corp.'s Drinkard 1, c nw se 25-22s-37e, 1½ miles east production, promising oil saturation 3790-3850 ft; sulphur water 3947-58 ft, abnd 4500 ft. **Outlets:** Humble, Shell and Texas-New Mexico.

DEEP WELLS? HEAVY GOING?



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BETHLEHEM STEEL

BETHLEHEM STEEL COMPANY

Remarks: Development almost concluded, except for few scattered tests pending for flanks of field. Two oil wells depleted.

PHILMEX

2¾ miles east by south Maljamar field. **Discovery Data:** Geology. Phillips Pet. Co.'s State-Philmex 1, c nw nw 28-17s-33e, April 1, 1942. **Structure:** Anticline. **Elevation:** 4189 ft. **Producing Formation:** Permian sandy-lime 4484-4600 ft (broken saturation). **Acreage:** 40. **Deepest Test:** Discovery to 4771 ft. **Gravity:** 38-39. **Outlet:** Trucks. **Principal Leaseholders:** Phillips owns bulk of nearby acreage. **Remarks:** Discovery required nitro shot and multiple acid treatments to make 25-bbl pumper, and is producing from deeper section of Permian than regular Maljamar field, although intermediate acreage will be explored on strength this completion.

RHODES

T-26s-R-37e. Texas Co. et al's W. H. Rhodes 1, se ne nw 22-26s-37e, Nov. 3, 1927. **Structure:** Anticline. **Elevation:** 2980 ft. **Production Formations:** Permian limestone 3005 to 3415 ft, average 141 ft penetration. **Acreage:** 1000 (scattered). **Production Jan. 1, 1942:** Daily, 482 bbls; cumulative, 364,856 bbls; estimated reserve, 4,635,000 bbls. **Producing Wells Jan. 1, 1942:** Oil, 13; flowing, 13; gas, 13. Cumulative water production to Jan. 1, 1942: 2277 bbls; gas, 39 billion plus. **Rigs Running May 1, 1942:** 2. **Gravity:** 31 to 40, average 36. **Deepest Test:** Midwest Ref. Co.'s Farnsworth 19, nw sw sw 14-26s-37e, mile east production, abnd 3877 ft. **Outlets:** Texas-New Mexico. **Remarks:** Discovery has produced 151,981 bbls, and currently prorated to 28 bbls daily account excess gas-oil ratio. Pool is second oldest in Lea County; bulk of oil development occurred past two years, and more than score wells to be drilled.

SALT LAKE

T-20s-R-33e. **Discovery Data:** Subsurface geology and trend. Harry W. Leonard and Van Welch's State 1, c nw nw 18-20s-33e, June 30, 1941. **Structure:** Anticline. **Elevation:** 3520 ft. **Production Formations:** Permian limestone 2990-3110 ft, average 24 ft penetration. **Acreage:** 300. **Production Data Jan. 1, 1942:** Daily, 220 bbls; cumulative, 14,030 bbls; estimated reserve, 1,186,000 bbls. **Producing Wells Jan. 1, 1942:** 5. **Rigs Running May 1, 1942:** 2. **Gravity:** 26-30. **Deepest Test:** Marland Oil Co. et al's Brooks 1, nwc sw 8-20s-33e, ¾ mile northeast pool, abnd 4003 ft. **Outlet:** Texas-New Mexico. **Principal Leaseholders:** Harry W. Leonard and Van Welch; Continental Oil Co. et al. **Remarks:** Development insufficient to determine importance of area.

SKAGGS

T-20s-R-38e. **Discovery Data:** Trend drilling. Continental Oil Co. et al's J. M. Skaggs 1, c ne se 24-20s-37e, March 26, 1937. **Structure:** Anticline. **Elevation:** 3550 ft. **Production Formations:** Permian sandy-lime 3750-3890 ft, average 105 ft penetration. **Acreage:** Developed 120 acres, total undetermined. **Production Jan. 1, 1942:** Daily 67 bbls; cumulative 124,009 bbls; estimated reserve 296,000 bbls. **Producing Wells Jan. 1, 1942:** Oil 3, flowing 1, gas 1. Cumulative water production to Jan. 1, 1942: 61 bbls, gas 228,010,000 ft. **Gravity:** 33. **Deepest Test:** Discovery to 3900 ft. **Outlet:** Shell. **Principal Leaseholder:** Continental et al own all close in acreage. **Remarks:** Development restricted to 3 wells, all marginal producers.

SKELLY

T-22-23s-R-37e, portions Secs 32, 33, 34 and 35-22s-37e. **Discovery Data:** Trend and regional subsurface geology. Skelly Oil Co. and Unit Members' B. F. Harrison 1, c nw sw 5-23s-37e, Dec., 1935. **Structure:** Anticline. **Elevation:** 3320 ft. **Production Formations:** Permian sandy-lime 3479 to 3712 ft, average 116 ft penetration. **Acreage:** 3360. **Production Jan. 1, 1942:** Daily 1771 bbls; cumulative 2,697,204 bbls; estimated reserve 9,063,000 bbls. **Producing Wells Jan. 1, 1942:** Oil 82, flowing 63, gas 5. Cumulative water production to Jan. 1, 1942: 39,772 bbls, gas 10,738,231,000 ft. **Gravity:** 36-38. **Deepest Test:** Gulf Oil Corp.'s King 1, c sw nw 5 23s-37e, ¼-mile north discovery, missed pay, abnd sulphur water 4052 ft. **Outlets:** Shell and Texas-New Mexico. **Remarks:** Seven majors unitized 12 sections for drilling of discovery. More than score additional wells to be drilled in southwest portion Township 22, which involves continuation of Mattix field and possibly isolated from original Skelly pool, which "fingers" into south portion Penroe field on proration scheduled. Two oil wells have been depleted.

VACUUM

T-17-18s-R-34-35e. **Discovery Data:** Surface geology. Magnolia Pet. Co.'s (was Vacuum's) State 1, c of w line 13-17s-34e, July, 1929. **Structure:** Anticline. **Elevation:** 4000 ft. **Production Formations:** Permian limestone 4117 to 4860 ft, average 233 ft penetration. **Acreage:** 13,640. **Production Jan. 1, 1942:** Daily 14,522 bbls; cumulative 13,239,355 bbls; estimated reserve 68,601,000 bbls. **Producing Wells Jan. 1, 1942:** Oil 341, flowing 256. Cumulative water production to Jan. 1, 1942: 63,575 bbls, gas 10,846,605,000 ft. **Rigs Running May 1, 1942:** 1. **Gravity:** 35-36. **Deepest Test:** Texas Co.'s State 1-A-E, c nw nw 12-18s-34e, plugged back from 5194 ft. **Outlet:** Texas-New Mexico. **Remarks:** Development held back until late 1938 due to isolation from pipe line. Nominal amount of drilling pending, especially on south side of structure.

VACUUM, NORTHWEST

4 miles west by north Vacuum field. Repollo Oil Co.'s State 1-197, sec 6-17s-34e, June 28, 1938. **Structure:** Anticline. **Elevation:** 4118 ft. **Production Formations:** Permian limestone 4645-85 ft. **Acreage:** 40. **Production Jan. 1, 1942:** Daily 23 bbls; cumulative 37,256 bbls; estimated reserve 203,000 bbls. **Producing Wells Jan. 1, 1942:** Oil 1, flowing 1. **Gravity:** 35. **Deepest Test:** Repollo's State 2-197, ¼-mile north discovery, abnd salt water 5012-21 ft. **Outlet:** Texas-New Mexico. **Principal Leaseholder:** Repollo Oil Co. **Remarks:** Single-well pool, with north and southwest offset failures. Officially listed as part of Vacuum.

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Return of Surplus Gasoline To Sands Being Considered

DUE TO wartime demand for special products while normal civilian consumption declines, use of depleted oil reservoirs as storage basins for large stocks of finished low-grade gasoline piling up in California and Texas is being studied. Storage facilities for low-grade gasoline are being jammed, and within a few months the surplus may become so great that the product will either have to be destroyed or some revolutionary storage means developed. Priorities on steel for tanks are out of the question.

Therefore, many foresee the possibility of meeting this threatened crisis by pumping it back into depleted zones in old fields. Due to the great demand for fuel oil, some refiners may start burning gasoline under their boilers so as to dispose of it and save fuel oil at the same time. The situation is of grave concern, for refiners must continue operating to provide the necessary war products and in doing so necessarily manufacture considerable quantities of low-grade gasoline for which there is a reduced need.

Past Experiments

There have been a few experiments with storage of gasoline in reservoirs, and despite the cost and problems involved, these indicate that where reservoir conditions are suitable the practice has satisfactory possibilities.

Back in 1931 Union Oil Company of California needed storage for 750,000 barrels of Santa Fe Springs field 35-gravity crude oil. In the near-by Brea-Olinda field the company controlled the Stevens zone, which yielded a 15-gravity product and had been fairly well depleted. It was decided to conduct a storage experiment and the 750,000 barrels of light crude was pumped into the Stevens reservoir.

Since 1931 there has been a heavy surplus production of crude oil in California and no necessity to attempt recovery of the injected crude until recently. Just now the company has started to draw on the Stevens zone at Brea-Olinda again and is recovering a product ranging between 20 and 22 gravity, as opposed to 15 gravity when the 35 gravity surplus from Santa Fe Springs was injected into the sands.

The Stevens sands are at about 3800 feet and Union injected crude at the rate of 9000 barrels daily. After pumping oil into the sands for a time, the pumps were switched to natural gas, after which operations were halted for a few days to permit equalization of pressures in the formation and then the process repeated.

In the Lompoc field in Santa Barbara County, Union also gained experience in the injection of petroleum products into old wells. In that field the company injected surplus casinghead gasoline, together with a quantity of 28-gravity crude oil into depleted 19-gravity sands. The product since recovered has run from 20 to 22 gravity.

Cost Figures

The company's cost for injecting crude averaged about six cents a barrel, but the cost factor is determined largely by the working pressures and the transportation factor in getting the oil from its original source to the place of storage.

At Brea-Olinda the formation pressure was approximately 1000 pounds, or approximately the equivalent of the pressure created by the fluid column to the surface. Pumping pressure was approximately 900 pounds, the amount needed to overcome friction and to offset any difference between the formation pressure and the weight of the fluid column which in this type of injection works in the operator's favor.

Costs are also materially affected by the volume of fluid being handled, the greater the volume, the lower the unit cost of injection.

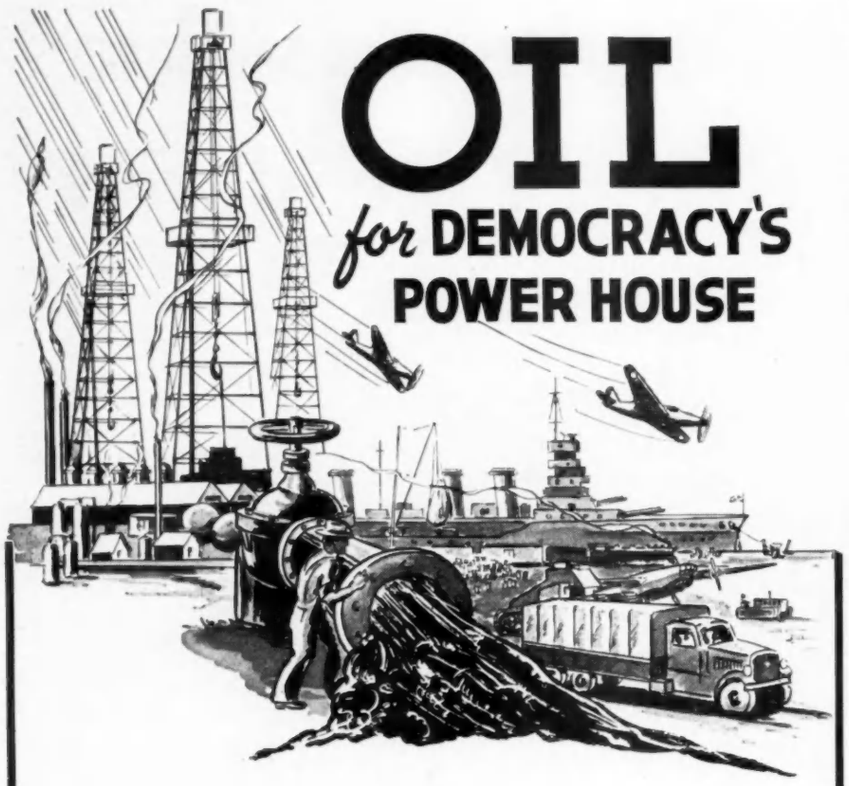
To round out the cost figure in this type of storage it is also necessary to take into calculations the probable cost of recovery of the oil when the time comes to take it from the storage basin.

Union's engineers point out that basically, there should be little difference between the recycling of gas and the returning of oil to a formation pending availability of markets for the commodity. Principle difference in the two operations lies in the fact that one of the products is in the fluid phase, the other gaseous. Since the structural trap formed a natural storage basin until it was tapped and the original oil in place drawn off, there is no logical reason why the same reservoir cannot be used as a storage basin for surplus inventories.

As to recovery of injected products, Union's engineers are of the opinion that the use of light oil or gasoline for injection into low-gravity sands will, in fact, break down the heavier product remaining in the reservoir and add materially to the volume of oil recoverable from the reservoir. However, they point out, certain crudes of asphaltic base will precipitate asphalt upon contact with certain solvents and such factors must be pre-determined before injecting the fluid into the formation.

Injection of low-grade gasoline into an old well also presupposes the additional expense of rerunning the product through the refinery upon its withdrawal.

Only a few California and Texas fields are available for the storage of surplus products and in these a number of intangible factors would contribute to their adaptability for such use. Utilization of such reservoirs, for example, presupposes full and complete control of the reservoir by the company or companies making use of the facility. Other-



OIL *for* DEMOCRACY'S POWER HOUSE

AMERICA'S real strength lies in our vast capacity for producing industrial power. The increasing need for power in production and transportation in our war program has thrust new responsibilities on America's Oil Industry, which has risen reassuringly to every new demand.

Sharing this new responsibility, the Banks of Fort Worth stand ever ready with complete facilities and long experience at the Oil Industry's disposal.

Oil men are cordially invited to accept the friendly cooperation of these banks in their vital task of fueling the Power House of Democracy.

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wise, there would be nothing to prevent a neighboring property owner in the same pool recovering the injected oil.

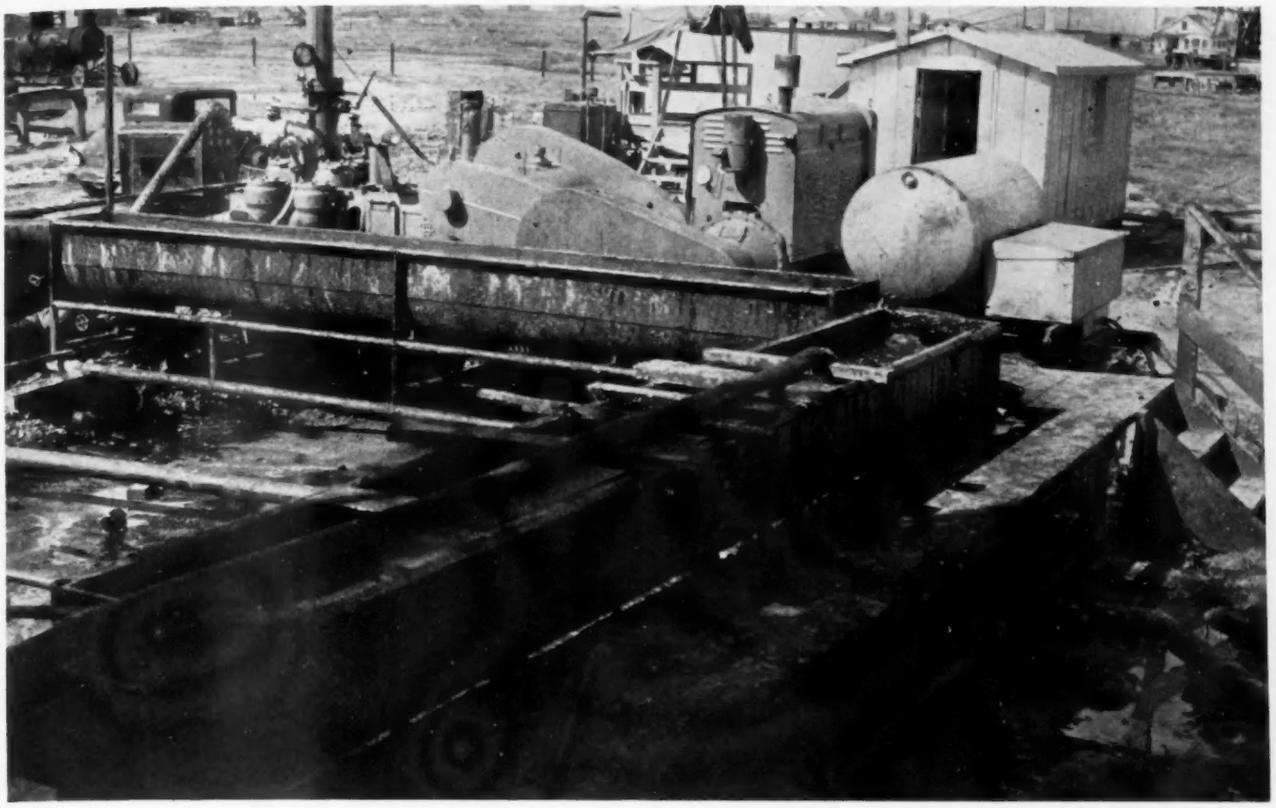
If the period of low-grade gasoline oversupply is to be extended, it would appear that a number of economies could be effected by the use of old fields as storage basins for the surplus product. Several necessary items of expense incurred in surface storage could be eliminated. These would include insurance, taxes—both on the product and any surface facility in which it would otherwise be contained—and elimination of evaporation losses and losses from leakage.

Opposed to these advantages are also some disadvantages. A primary disadvantage lies in the fact that it costs money to put oil or gasoline into the formation and would cost more to pump it out again. There is also a possibility that the product returned to the sub-surface reservoir may never be recovered, although Union Oil Company engineers can see no reason why it cannot all be pumped back out again—with the added prospect that a considerable volume of the original oil in place of heavier gravity may be subject to recovery when broken down by lighter fluids.

Important factors in estimating cost per barrel for such storage would be decided both by the volume of fluid for which storage is needed, and the length of time such fluid is left in the storage basin. In the matter of taxes alone, for example, if it is left on the surface the tax charges would eventually equal the original value of the products. Evaporation and leakage are also important considerations in surface storage over long periods.

Old fields to be used for storage must also be located near refining centers if the transportation costs are not to add heavily to over-all storage costs.

Companies operating in Iraq probably have had more experience in the use of old producing zones for the storage of surplus products than American companies. Demand for products from that area has always been for particular items such as gasoline, diesel fuel or fuel oil, rather than for all of the varied products obtained from each barrel of crude. For some years it has been the practice to run crude through the Iraq refineries and obtain the products needed and return the residue to the formation for later withdrawal.



Sectional walks placed close to side of sections gives a man an opportunity to inspect the mud, dilute the circulation, or mix bentonitic clays to raise the viscosity.

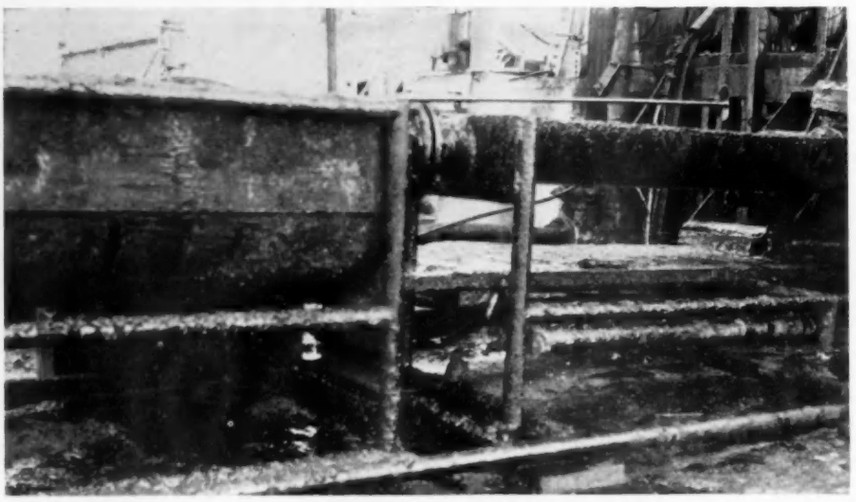
Portable Steel Mud Flumes

A CALIFORNIA company is using highly unitized and interchangeable steel mud flumes which have a number of construction features. In addition to being easily moved from location to location and providing for the use of as many sections as necessary to design varied length circulating systems, the sets have means of being connected in straight lines or for 90° turns, standards for constructing inspection walkways, facilities for cleaning and other features.

The dimensions of each section is identical with others, so as many may be used as are necessary to provide the desired layout. The type of material used in constructing the flumes consists of two-inch pipe and several sheets of salvaged tank steel. The flume sections are constructed by first forming a substantial frame from the two-inch pipe that consists of legs, side members and top rails. These supporting frames are made up in standard dimensions, to provide interchangeability with other units.

The light weight tank steel is cut to size for forming a half-round bottom, then flat steel sheets are welded to the sides of these half-round bottoms to give sufficient height. The assembly is then placed in the pipe frame and securely fastened. If conditions warrant, light angle iron may be employed for finishing the upper rims at the rails for additional stiffening. The ends of each section are closed with flat sheets of heavier material, which are attached to both the flume conductor section and the end legs of the supporting frame.

At each end of the finished section, short pipe nipples, or spools are welded to the end plates as near the top stiffening rail as convenient, with either threaded ends for screwing companion flanges or plain ends for connecting fittings by welding. Especial care is given the installation of these flanges to the connecting spools or nipples, to see that the bolt holes in the flanges are in identical position on each end, so that the section may be set up and assembled for use



All steel flume for drilling mud is convenient in close quarters, and makes it unnecessary for digging canals from the well to pits. View shows two-inch pipe supporting frame, makeup of flumes from tank steel, and use of short conductor trough from well head to first flume section.

without turning for special direction of flow.

For conducting the fluid from the well head to the first section of the series of steel mud flumes, a shallow trough is desirable. It should be deep enough and wide enough to allow for heavy flow of fluid from well to the flume section without overflowing and splashing. One end of this short trough may be finished blank, with the opposite end finished with a companion flange for bolting to the upstream end of the first section of the series of flumes. The spool, or welding neck for the companion flange on the outlet end of the short conductor section should be placed with the lower side at the opening flush with the bottom of the mud flume to prevent settling of cuttings and heavier portions of the fluid at this location. If this arrangement of flumes and short conductor section is used with shale shakers, the short section can be placed to receive the circulation below the screens instead of at the discharge end of the conductor pipe.

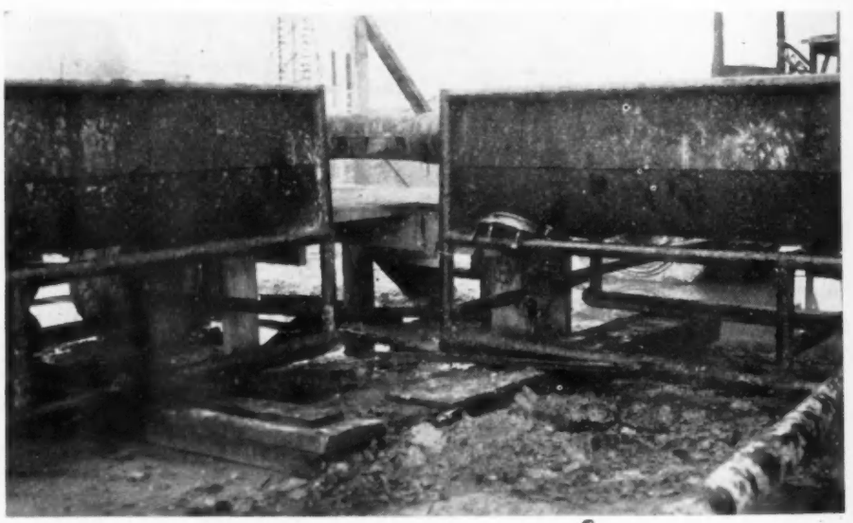
In setting up the series of flume sections, the number and type of connections depends upon whether the flumes are to be placed in a straight line or to be erected with one or more 90° turns. If placed in a straight line, the sections are joined to each other by bolting the companion flanges in the order of setting, using soft gasket material between the flat surfaces to seal the joint. When square turns are required, long radius ells are necessary, which may be obtained in ordinary pipe weight similar to welding ells or of cast iron with flanges integral with the body.

Since the half-round portion of the flume section is well below the outlet at either end, some of the heavier mud particles fall out and settle to the bottom of the stream. The design of the flume sections takes this condition into consideration, so that these particles will not pass to the suction pit, or tank to foul the pump or to be returned to the well. Cleaning the sections between runs or at any other time which may be convenient is obtained by welded drain nipples near each end fitted with control gates and connections for attaching pipe to lead the discarded material away from the location and into shale pits or storage sumps.

For inspecting the flowing stream of drilling mud passing through the flumes, to make observation of make-up or dilution more convenient, and to keep the feet of the operators off the ground, sidewalks are a desirable part of the assembly. The supporting frame for the walks is made by using more of the two-inch pipe, with sectional length sufficient to extend the full length of the flume section plus connecting attachments. The surface of the sidewalks may be finished with common dimension lumber wide enough in the aggregate to promote safety and utility.

For placing the flume sections and the sidewalk members in position for use at the well, the ground surface condition dictates whether supporting cribbing should be used to bring the level of the units to a common point, or to prevent settling into the soil when loaded with circulating fluid. Matching end levels is necessary for bolting companion flanges to each other, and the supporting timbers may vary in height, but provisions should be made to prevent misalignment and distortion by using planks and timbers of sufficient width for adequate support on soft, wet spongy ground.

The outlet connection on the last flume in the series may be made up to suit conditions encountered in general operation, but if the assembly is used with a relatively small capacity suction tank —for a quick change of mud characteristics—the connection may be a short section of pipe having a companion flange for bolting to the outlet of the flume. It should be of sufficient length to extend well over into the receiving pit, or tank.



Flanged 90° ells are used for connecting sections when making a turn. Flanged nipples are used when the sections are to be used in a straight line. A drainage pipe is convenient for cleaning a section of sediment.

Washington Roundup

[Continued from page 24]

even more satisfactory than steel to carry crude, or its heavy by-products, and they could be built at a thousand places along the Atlantic and Gulf and on inland rivers and bayous."

Amount of Gasoline To Be Allowed Still a Secret

Speculation as to the exact amount of gasoline the ordinary car owner would be allowed to have under the rationing program which goes into effect May 15 continued to engross Washington gossipers last week, but OPA made it clear that no determination would be made until almost the last minute.

The proposed card rationing of motor fuel was also subject to criticism in Congressional and other circles, where it was held that there was more to the plan than appeared on the surface. Among other things, it was charged that Henderson was going to cut driving to a minimum with a view to saving rubber and making tires last longer, although it was admitted there is little to choose between rubber without gasoline and gasoline without rubber.

At the Capitol, opinion was divided, with some members of Congress who knew the inside situation defending the rationing as fair and others, possibly seeking political capital in espousing the cause of the people, declaring it unjustified.

A full investigation of the rationing proposal by a select committee was proposed in a resolution introduced in the House by Congressman Samuel A. Weiss of Pennsylvania, but there were indications that rationing would be a fact before any inquiry could be made.

An investigation of the oil situation also was proposed in a resolution introduced, April 29, by Representative L. Mendel Rivers of South Carolina.

The inquiry would be conducted by the House Naval Affairs Committee, instructed to investigate the oil shortage and, primarily, the requirements of the Navy Department along the East Coast, and also to make a "complete study" of the whole situation and the feasibility of constructing pipe lines to increase deliveries to the East.

OPC Permission Needed To Abandon Old Wells

Abandonment of oil and gas wells was placed under government control April 29 in an order by the coordinator calling upon operators to produce their wells as long as possible.

An OPC recommendation (No. 47) directed that no well be abandoned until it is incapable of producing enough oil or gas, or both, to pay costs of labor, maintenance or repair, and taxes.

So long as operating expenses can be met, the well should be maintained, unless the production of water tends to diminish the ultimate recovery of petroleum from a reservoir, it was said.

Except where abandonment is permitted under the recommendation, it was ruled that casing or equipment shall not be salvaged from a well if such action will result in the isolation and loss of the remaining reserves in a reservoir.

Notice of intent to abandon a well capable of producing more than 1 barrel of oil or 6000 cubic feet of gas daily, must be filed with the district director of production at least 30 days before abandonment operations are scheduled to begin. If no disapproval notice is received by the operator, he may proceed with the abandonment.

It was ordered that a well actually incapable of production because of depletion of a reservoir or because of failure to find oil in commercial quantities may be abandoned, provided that the operator conforms with state regulations or, if there is no state regulatory authority, proceeds in accordance with recognized engineering principles.

Equipment for Export Put Under New Rating Plan

In an effort to expedite the delivery of materials required by operators in foreign countries, WPB has adopted a foreign petroleum industry material rating plan in cooperation with OPC, and will give it a five-months' trial.

The plan will not affect operators whose businesses are in Canada or in the United States, its possessions or territories.

Under the scheme, requests for priority ratings must be filed with the Board of Economic Warfare on Form PD-311. After consideration for foreign clearance, applications will be sent to OPC for analysis of the material needs, and then to WPB, which will assign preference ratings.

If favorable action is taken upon a request for materials, the operator will be informed immediately but before he can apply his preference ratings he will have to obtain, either from the Board of Economic Warfare or the Office of Lend-Lease Administration, a certificate of assignment of preference ratings and an export license or a statement of authority to export.

The new form was drafted so that an operator can present all essential information in one application, making possible quicker action than could be secured when it was necessary to use a combination of forms. Because applications must be handled by four agencies, six copies of the form must be filed, and in filling out the form operators must distinguish material requirements according to one of the five classes in which the materials are grouped and must submit separate PD-311 forms for each branch of the industry in which materials are required.

The plan will terminate on September 30, next.

Tapco Renews Efforts To Build Pipe Line

Trans-American Pipeline Corporation, whose application for designation as essential to the national defense was rejected by Defense Transportation Director Joseph B. Eastman April 16, renewed its efforts April 28 with an application moving the western terminus from Wichita County into the Permian Basin.

In its application, Trans-American said the extension would involve an additional 300 miles of 8-inch pipe with 7 pumping stations at a cost of $3,150,000, and instead of designation as a national defense project Eastman was asked to recommend the line as necessary to transportation for the successful prosecution of the war in accordance with his instructions from President Roosevelt.

The company answered a number of the findings in Eastman's decision rejecting its original application, admitting that it proposes that the line shall be built with government funds.

PRACTICAL OPERATING *Hints* FOR

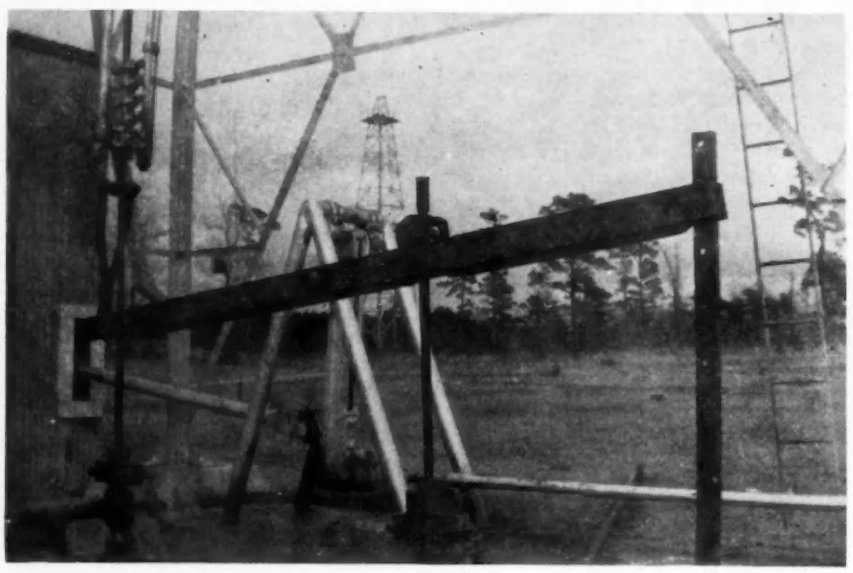
1. WATER SUPPLY

Polish Rod Hook-Up Powers Second Beam

WITH the water well on the same floor as the pumping oil well, one operator in the East Texas field connects the walking beam of the water well to the polish rod of the oil well.

The beam, made of two pieces of flat bar stock, is carried at the outer end on a support which, pivoted at its base and with loosely set bolt at the top, permits lateral or endwise motion of the beam without cramping. The other end of the beam is connected by means of a stirrup which spans the polish rod, permitting the open yoke formed by the two bars of the beam to move past the polish rod and allow the rod of the water well to rise and fall vertically.

The polish rod of the water well is held in a mounting fixed on top of the beam, with a swivel connection so that the angle between beam and rod may change readily throughout the stroke cycle.



Carried on rocker support and with flexible yoke at rod driving end, this water pump beam floats in line with guide provided by pump packing without imposing thrust.

THE practical operating hints for the drilling rig, production man and pipeliner, appearing regularly in these pages, are secured from oil operations everywhere and offer suggestions that will help to improve operating efficiency and safety.

The items give an excellent picture of the remarkable ingenuity being exercised by the operating divisions of the industry. Contributions to these features will be paid for at the rate of $5 for each illustrated item accepted. Address contributions to "The Editor, The Oil Weekly, Houston."

2. CONTROLS

Foot Pedal Extension Aids Wire Line Runs

SIMPLIFIED and easier control over the wire-line hoist was made possible by the equipment engineer of one company through installation of a foot control for the clutch of the automobile engine power plant.

A linkage was attached to the clutch pedal and brought out to the edge of the trailer bed where it was attached to a vertical lever terminated at the bottom by a foot pedal. A strap loop bolted to the side of the trailer frame holds the pedal lever in position at all times. Operating the clutch with his foot enables the operator to have an extra hand free to perform other jobs besides handling the brake, such as keeping the wire line spooling properly, operating the throttle, etc.

Pedal enables servicing rig operator to check data during actual running of wire-line unit.

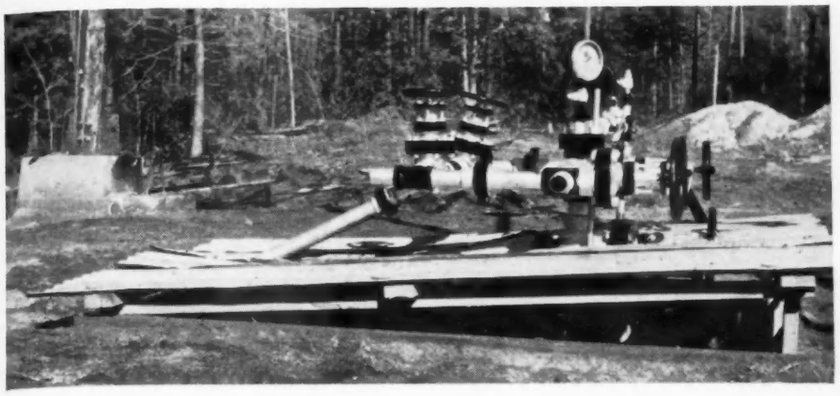
Another feature that helps to simplify the operation of the hoist is a small sloping metal rack, welded to the side of the drive housing, in which well information, depth and time interval for the pressure bomb stops, and other well data may be placed. Holding the data in front of the operator in this fashion where it is free from loss or injury due to winds or oily hands, contributes considerably to speed and accuracy in running the bomb.

3. CELLARS

Removable Covers Reduce Clean-out

CELLARS at the Christmas tree may be kept dry by construction of a cover to keep out rain water, yet making it easy for employees to enter the cellar for manipulating valves. One operator in the Nebo

THE PRODUCTION MAN...



Inclined shelter, composed of galvanized sheets over light frame, sheds rain and helps maintain dry cellar and thus facilitate inspection and maintenance of Christmas tree.

field of Central Louisiana constructed such a roofing for cellars of his various wells, setting the cover at an angle to facilitate drainage.

The roof is made of a light frame, covered with several sheets of corrugated iron, nailed securely to prevent accidental dislodgement. An open area is provided in the central section to allow the Christmas tree to protrude. At one end of the cellar is a short timber rack. The cover is placed over the cellar with one end resting on the rack and holding it off the ground, while the opposite end is set flush on the ground. With the cover tilted at this angle, water easily drains.

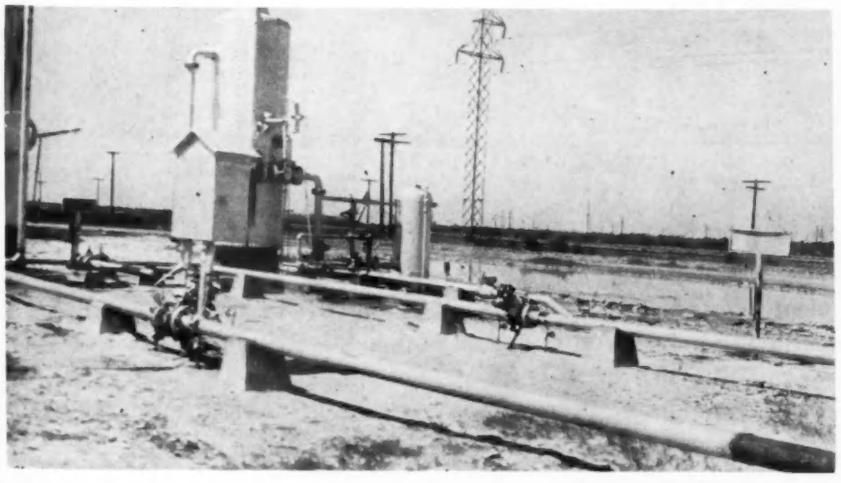
The apparatus is light in weight, and requires only one man for removing. With one end raised, grip is easily obtained underneath for lifting the cover. Replacing it is also a simple task.

4. METERING

Tilted Fittings Aid Orifice Replacements

TILTING the orifice fittings on meter runs from the usual vertical setting places the top of the fittings where employes in the meter department can quickly change plates without moving or disturbing the recording instruments in the shelters or weather-proof covers built over them.

When tying the fitting into the line, the flanges are made up in the usual manner, and the body of the fitting then rotated a specified number of bolt holes from the normal setting. To insure uniformity, one company sets all fittings at an angle of 45 degrees, with the operating side of the fitting inclined away from possible traffic.

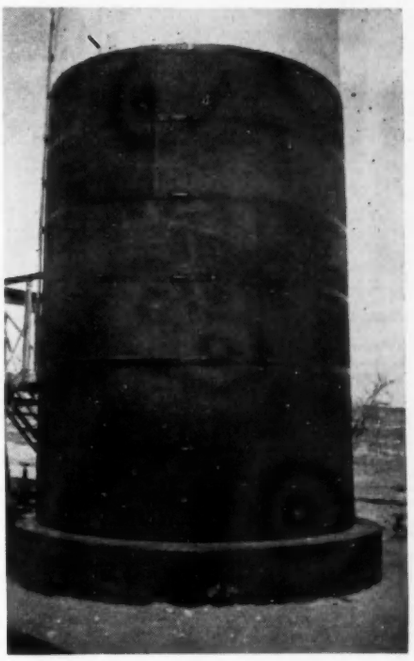


Orifice fittings set at 45-degree angle enable adjustments or replacements to be made without removing or affecting usual meter housing around recording mechanism.

5. TANKS

Insulation Maintains Treating Temperature

IN AN effort to cut down tank handling and treating troubles, one company found it advisable to insulate the lease gunbarrels. The material was ½-inch fibre insulation held in place by means of load binding steel 2 inches wide and 0.05 inch thick. The vertical seams are held by "T" straps about 1 inch wide with a ¼-inch flange to insert between the ends of the sheets of insulant.



Straps permit tightening of insulating rings on tank, while cement seals against moisture.

The horizontal retaining bands are cut full circumference, and a piece of angle welded at the extreme end with another angle welded about 6 inches from the other end, and the whole tightened with ⅜-inch carriage bolts.

To keep water from getting behind the sheets it was necessary to spread plastic cement on the top.

The company now is able to maintain a temperature of about 110° in a 9 x 16 foot gunbarrel handling approximately 1500 barrels of fluid daily, whereas previous winter lows reached sixty degrees.

To get more gasoline out of each barrel of crude oil is one of the big jobs confronting refineries today. Such an accomplishment is equivalent to adding vast new oil fields to the nation's wealth in natural resources. Thanks to research men of modern chemistry and science, they ARE achieving this unbelievable task. And *Utility Electric Power* is playing a big part in getting this job done. So naturally, we're doubly eager to give our all to the refinery industry, because our ultimate goal is VICTORY!

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The Week's News

Kansas Allowable for May Is Increased

The Kansas Corporation Commission has set May allowables at 259,300 barrels, an increase of 5900 barrels over the April production quota. The May quota was the figure recommended by OPC, although the commission had nominations for 295,053 barrels.

South Louisiana Gets Less Of May Production Quota

The Louisiana Conservation Commission last week set the Lousisana allowable for May at 301,929 barrels, with South Louisiana fields given 225,402 barrels and North Louisiana, 76,527 barrels. In April, South Louisiana allowable was 246,996 and North Louisiana's 74,471 barrels.

Oklahoma Commission May Production Order Increased

Oklahoma Corporation Commission has followed the OPC-recommended increase in daily production rates by stepping up the state's allowable from 436,900 for April to 438,500 for May, this total to include all petroleum fluids. This new increase continues the upward trend of state quotas during the past four months. Hobart field, Kiowa County, will no longer be prorated, it was ruled.

Texas Allowable Fixed for First Ten Days of May Only

The Texas Railroad Commission has issued its May production order for the first 10 days of the month only. This unusual action was taken in order to give the commission additional time for studying transportation facilities and demand.

Due to disruption of transportation, the state is confronted with a most aggravated proration problem. OPC has recommended that the state's May production be limited to 960,000 barrels daily, including 85,000 barrels of natural gasoline, a reduction of 174,000 barrels from the April rate, and compared with an output of 1,600,000 barrels per day in February. With some fields exempt entirely from shutdowns because of their stripper production or water producing rates, and others exempt partially because of the production of crudes needed in the war effort, very little oil remains to be divided among other wells. It has been estimated that if the OPC-recommended level is reached, something like 50,000 wells can be permitted to produce but 6 days during the month.

No change was made in proration schedules in effect during April in the commission's 10-day proration order. However, most fields will be shutdown 6 of the 10 days, and the remainder will be closed down for 3 of the 10 days.

The shutdown days for fields producing oil for the war effort, including Panhandle, North Texas and District 7-B, are May 3, 9 and 10. The remaining fields will be closed May 2, 3, 4, 8, 9 and 10 unless they are included on the list of exempt fields which, because of peculiar physical conditions, the commission allows to produce every day.

The commission declined to comment on prospective orders for the remaining 21 days of May. If the order is extended on the basis of the first 10 days, the result would be 13 producing days, 1 more than was allowed in April. But, as pointed out above, it is expected that a new and more drastic order will be issued.

Because of the brief period covered by the order, the commission will be able to follow any one of several courses, depending upon conditions at the end of the initial period.

The Angleton field in Brazoria County was dropped from the list of fields exempt from shut-downs. No other changes were made.

Plan Building Line from El Dorado to Mississippi River

A pipe line from El Dorado, Arkansas, to Helena, Arkansas, on the Mississippi River is being contemplated as a government project, with the cooperation of several oil companies, it was reported last week.

It is planned to use second-hand pipe, including pipe from Standard Oil Company of Louisiana's old line from El Dorado to Grand Lake, near Lake Village.

Under the plan crude from Arkansas, North Louisiana, and East Texas would be moved through the line to Helena for trans-shipment by barge to the east.

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OIL IS AMMUNITION ★ KEEP 'EM PRODUCING

English-Dutch-Mexican Oil Negotiations Reported

There is a growing prevalence of reports in Mexico City that adjustment of compensation for the Mexican Eagle (Aguila) Oil Company (British-Dutch Shell) is in prospect now that official appraisers have agreed upon a compensation figure for American companies affected by the expropriation of foreign-held oil properties in 1938.

Diplomatic relations between Mexico and Great Britain, ruptured following expropriation, were resumed not long ago, opening the way for settlement negotiations. Prevailing opinion in Mexican oil circles is that any settlement with the British-Dutch Shell would be on the same bases of evaluation employed by the United States-Mexican commission.

The response of the American companies to the decision of Morris L. Cooke, representing the United States, and Manuel J. Zevada, representing Mexico, on compensation figure of $23,995,991 is awaited in Mexico with much interest. The decision of the two-man appraisal committee is final so far as the two governments are concerned. Whether the companies will accept the evaluation reached is something of a moot question. In the November 19 accord under which the two-man appraisal committee was named by the two governments, it was indicated that acceptance or refusal of the figure that might be reached was within the discretion of the companies.

No official mention of an operating contract for the American companies in Mexico in affecting a settlement, now that the indemnity has been fixed, has been made. Representatives of the companies in Mexico have made no comment as to the course the companies may be expected to follow in the face of the official decision. The situation apparently resolves itself into a question of whether the companies will accept the $23,995,991, or charge the matter off to profit and loss in the hope of making new arrangements acceptable to Mexico for further operation in the country. Mexico's position to date has been that the foreign companies will not be allowed to return to Mexico.

Cities Service Agrees On Mexican Settlement

Agreement whereby the Mexican government will pay Cities Service Company something over $1,000,000 for settlement of claims against Mexico in the expropriation action in 1938 was disclosed by the company last week. This agreement was reached independently of the general arrangement recently announced, under which other oil companies whose Mexican properties were siezed are to receive payments totaling $23,996,000. The Cities Service holdings were originally valued by the company at between $4,000,000 and $5,000,000. Cities Service negotiated the agreement directly with the Mexican government.

Under the arrangement the company retains title to four properties in Mexica, including subsoil rights, which were not under development at the time of the expropriations and which were not

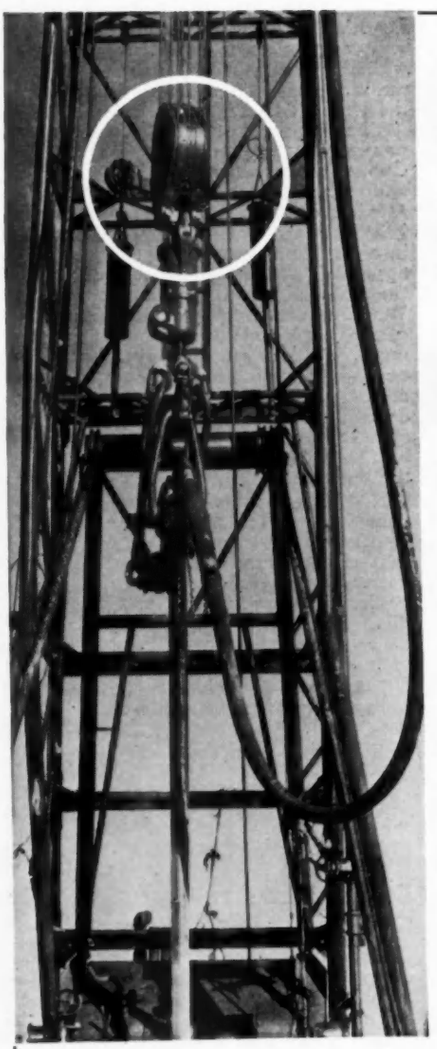
seized. An official declares that no drilling has been done on the lands because of the uncertainties involved, but says that drilling probably will be undertaken in the future.

The Cities Service agreement is the third to be negotiated directly with Mexico. In 1940 Consolidated Oil Corporation agreed to accept in full settlement of its subsidiaries' claims against Mexico $8,500,000 to be paid in installments after an initial installment of $1,000,000. Last July, Penn Mex Fuel Company, controlled by Consolidated, announced it had accepted $300,000 in cash from the Mexican government in full settlement of claims for expropriated properties.

Meanwhile, the other American oil companies were expected to confer last week in Washington with Morris L. Cooke with respect to the awards which Cooke and the Mexican government appraiser agreed upon. The companies have issued no statement outlining their views on the awards so far. One official declared the companies want to examine terms of the agreement in detail and obtain clarifications of some sections, particularly with reference to pending Mexican claims against the companies.

Texas Permits

The Texas Railroad Commission last week approved permits for drilling 115 wells in Texas. This included 22 in West Central Texas, 21 in Southwest Texas, and 20 each in North Texas and West Texas. There were 6 in the Panhandle, 7 from East Central Texas and 1 from the East Texas field.



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Write for Illustrated Bulletin

McKISSICK PRODUCTS CORP.

TULSA, OKLAHOMA

State Officials Still Seek Illinois M-68 Exception

Illinois officials, greatly concerned over a 60-percent decline in oil well completions since the OPC M-68 drilling order became effective last December, are discussing the possibility of obtaining exceptions to the ruling.

G. C. Curtis, superintendent of the state oil and gas conservation division, called a meeting of Illinois operators April 30 in an effort to prepare a "program of common action."

The session followed a recent conference with OPC officials in Washington where, at the request of Governor Dwight H. Green, an Illinois delegation asked for relief from the federal order. Curtis said government officials will consider exceptions filed for drilling wells in shallow pools.

"Illinois has suffered to a great extent from the one well to 40 acres ruling," Curtis said, "and the subsequent decline in completions has resulted directly from the order. In view of the critical situation, we believe every effort should be made without delay to modify the federal order."

The state's OPC quota for March was 362,500 barrels, but only 322,000 barrels were produced. The April quota is 354,400 barrels, and the quota for May has been set at 329,200 barrels.

Dual Completions Banned, Unitization Is Urged

The Arkansas Oil and Gas Commission passed a resolution April 22 prohibiting dual completions in the Dorcheat and Macedonia condensate fields unless the fields are completely unitized.

The commission, in passing the resolution, said that unitization of multiple-zone oil and gas fields will prevent waste, and will encourage and provide a means of conservation of crude oil and natural gas.

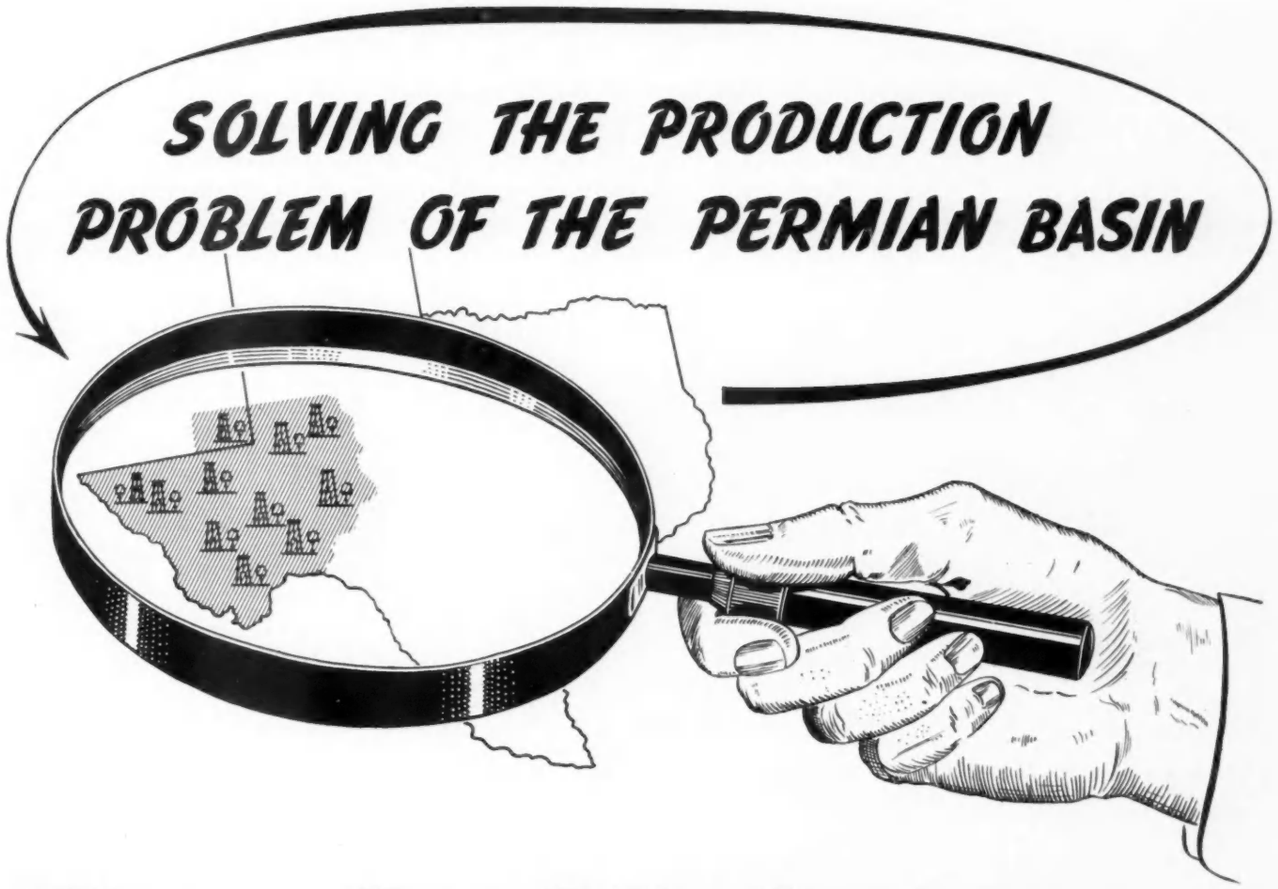
California Redistricting Committee Representation

In preparation for annual election of field and district committee chairmen in California, the successful candidates making up the membership of the California conservation committee, a redistribution is being undertaken and the number of districts being reduced from 28 to 26.

The reduction in number of districts and redistribution is being recommended to provide more equitable representation for new producing areas and is being based upon geographical location of fields and amount and kind of oil produced. Each representative on the committee so elected, according to the plan, will represent approximately a proportionately equal production interest.

E. E. Pyles, chairman Production Committee for District 5, was named an ex-officio member of the committee, and it was further recommended that no member of the production committee be eligible for membership on the conservation committee, in the interest of relieving members of that group from excessive demands on their time.

The committee also voted to continue the April methods of allocating California's crude oil production quota into May.



Nixon Gas-Lift System

Look at the records of a number of leases in the Permian Basin that are producing with the Nixon Gas-Lift System.

Several hundred installations in this West Texas-New Mexico area are handling the heavy volumes of sand, formation gas, and low fluid levels with extreme economy and efficiency.

Operating costs are being held to an extreme low, so that despite low allowables and small returns, operators are able to show a profit.

Lease A
Number of Wells equipped with Nixon Gas-Lift....42
Average months of operation per well.....17.9 months
Average cost of repair parts per well per day....$.048

Lease B
Number of Wells equipped with Nixon Gas-Lift....29
Average months of operation per well.....10.5 months
Average cost of repair parts per well per day....$.0026

Lease C
Number of Wells equipped with Nixon Gas-Lift....37
Average months of operation per well.....11.2 months
Average cost of repair parts per well per day....$.0058

Lease D
Number of Wells equipped with Nixon Gas-Lift....16
Average months of operation per well.....13 months
Average cost of repair parts per well per day....$.022

WILSON SUPPLY COMPANY

1412 MAURY ST. HOUSTON, TEXAS

SALES OFFICES: Tulsa, Oklahoma; Dallas, Texas
LOS ANGELES: 1341 South Hope St., Phone Richmond 9121
TRINIDAD, B.W.I.: Neal Massey Eng. Corp.

BRANCH STORES: TEXAS—Gladewater, Barbers Hill, Bay City, Monahans, Alice, Victoria, Corpus Christi. LOUISIANA—Rodessa, Lake Charles, New Iberia, Harvey, Shreveport

Driving Restriction Again Reflected In Lower Production and Still Runs

The restrictive effects of inadequate transportation and lack of new tires and new motor vehicles were reflected as previously in statistics of the industry's operations in the week ended April 25.

Both production and processing of crude oil were again at materially reduced levels, and there was further evidence of difficulty in supplying enough heavy-fuel oil, while stocks of gasoline were reduced less than normally, despite more curtailment of production at the refineries.

Crude-oil production of 3,581,000 barrels daily was 36,000 barrels above that in the previous week but under that of a year earlier by 145,000 barrels daily, or 4 percent, as output in the week ended April 25, 1941, was 3,726,000 barrels a day.

Crude runs to stills were cut back 42,000 barrels from the previous week's daily average, having averaged 3,506,000 barrels a day, and a new low for the year was thereby set. The runs at the curtailed rate were approximately 200,000 barrels (5 percent) lower than those of 3,705,000 barrels daily a year previously. They represented utilization of only 74.9 percent of rated capacity, compared with 75.7 percent used the week before.

Production of gasoline in totaling 10,535,000 barrels for the 7 days was 470,000 barrels smaller than in the previous week, a decerase of 67,000 barrels in the daily average output. Despite the smaller current output of the refineries, however, it was necessary to draw more than normally on storage in fact, the withdrawal of 605,000 barrels from finished and unfinished gasoline stocks was less than drafts in comparable weeks of some earlier years.

These figures on gasoline attested continued lagging of demand, with the East and West coasts rationed and with motorists throughout the country conserving their automobiles and tires.

Stocks of light-fuel oil reacted unfavorably, having decreased contraseasonally, as it continued necessary to add that product in with residual fuel oil to stretch the supply of the latter. The national inventory of gas oil and distillate fuel was drawn upon in the amount of 689,000 barrels during the week of April 25, an average withdrawal of 98,000 barrels daily, whereas it is normal at this advanced stage of spring to be adding to storage. The total of 29,240,000 barrels on hand April 25 represented a new low for the year. Building up of stocks commenced in 1941 after April 12, in 1940 after April 6, and in 1939 after April 15.

As just indicated, there was continued scarcity of residual fuel oil, and the industry took the large amount of 1,470,000 barrels of that product out of storage in the week ended April 25, despite the diversion of lighter fuel oils into this market. Stocks of 81,107,000 barrels in the country on April 25 were 14,529,000 barrels (15 percent) short of those held a year earlier.

Usual weekly figures of the Bureau of Mines on crude oil stocks were not published for the week ended April 18, as censorship of statistics of the industry was extended, following cessation of the release of detailed figures on operations and inventories in the East Coast and Southwestern districts.

Oil Included in OPA Price-Freezing Order

Prices of oils came under wide consideration during the past week. They were affected by the nation-wide and comprehensive freezing of nearly all prices under order of OPA, and there was continued agitation in the industry for upward revisions to compensate for sharply higher costs arising from the transportation situation, the recent drastic curtailment in volume of business, and the necessity of taking larger yields of relatively low-priced heavy-fuel oils from crude processed.

The Gulf Coast Refiners' Association issued a statement April 28, just in advance of the general price-freezing order, in which it asserted that per-barrel costs of products turned out had been substantially increased because of operating plants at reduced rates. The reduction of gasoline yield from crude charged to stills has further increased the cost of operations and placed the burden of operating costs on the various grades of fuel oil, of which there is a shortage, the association statement continued.

When OPA promulgated its general price order April 28, it placed ceilings on the retail prices of motor fuel throughout the country except the East Coast district, ordering that the retail price should not exceed maximum prices charged by each individual service station during March. Retail prices on the East Coast already were covered by an order of the agency, because of the transportation situation, and they were not affected by the general order. But OPA gave consideration to the Eastern prices in a new special order, to replace its temporary maximum Price Regulation No. 11. Under the new order, OPA authorized, effective May 18, advances in the Eastern retail prices of certain products, in view of present transportation conditions. For the Eastern district, maximum prices were fixed at the highest rate charged during March plus 4/10 of 1 cent a gallon for gasoline and 2/10 of 1 cent a gallon for diesel fuel.

Prices of crude oil and wholesale prices of refined products were not affected by OPA's April 28 freeze of all prices, inasmuch as they were already covered in the OPA Price Schedule 88 and therefore were exempt from the new order.

Crude Oil Production in the United States

(Estimates compiled by The Oil Weekly. All figures indicate daily averages, in barrels)

STATE OR DISTRICT	[1]OPC Allocation in April	PRODUCTION IN WEEK ENDED April 25	May 2
Arkansas	74,000	73,500	73,500
California	659,800	648,800	618,300
Long Beach		35,400	30,900
Midway-Sunset		57,700	58,900
Kettleman Hills		44,000	34,600
Wilmington		96,400	99,800
Rest of State		415,300	394,100
Colorado	6,900	4,900	5,250
Illinois	354,400	297,450	293,350
Salem		47,300	47,600
Louden		50,050	55,250
Other New Pools		187,700	178,700
Old Pools		12,400	11,800
Indiana	18,200	21,450	18,700
Kansas	253,400	253,200	255,300
Kentucky	12,800	12,550	12,400
Louisiana	313,000	316,850	311,800
North		76,650	77,750
South		240,200	234,050
Michigan	60,200	59,100	60,750
Mississippi	49,800	96,300	92,850
Missouri		130	130
Montana	23,700	21,550	21,600
Nebraska	5,000	4,350	4,200
New Mexico	86,000	80,100	74,400
New York	14,600	13,700	13,300
Ohio	10,100	9,850	9,800
Oklahoma	436,900	400,750	404,650
Oklahoma City		73,800	77,500
Seminole Area		106,150	106,500
Rest of State		220,800	220,650
Pennsylvania	49,900	52,250	53,050
Tennessee		30	30
Texas	[2]1,134,000	1,123,000	900,950
Upper Gulf Coast		229,200	180,950
East Texas Field		226,300	146,650
Rest of Eastern Texas		79,500	73,800
Lower Gulf Coast		85,500	56,200
Southwest Texas		53,000	41,300
South Central Texas		19,200	17,800
West Texas		191,400	142,050
North Texas		148,300	162,150
Panhandle		90,600	80,050
Utah		15	15
West Virginia	15,200	9,900	10,150
Wyoming	88,900	93,000	92,800
Total United States	3,666,800	3,592,725	3,327,275

[1] Production rates recommended for states by Office of Petroleum Coordinator, on basis of Bureau of Mines forecast of the nation's daily average requirement for domestic crude during month. State conservation authorities have prescribed allowables calculated to hold actual production within OPC allocations. (Details on state allowables published March 30, 1942, page 47.)

[2] Most Texas fields were ordered shutdown 18 days: April 3, 4, 5, 6, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25, 26, 27, 29, and 30.

Shell Taking More Oil From Permian Basin Area

Shell Oil Company has materially increased its crude purchases in West Texas and Lea County, New Mexico, by taking over surplus well connections held by Humble Oil & Refining Company, Atlantic Refining Company and the four buyers that use the facilities of The Texas-New Mexico Pipe Line Company. This switch in connections is on month-to-month basis and is to enable Shell to offset shrinkage in normal runs occurring from reduced proration quotas while its market demand and direct pipe line outlet to Middlewest plants has not been adversely affected by war conditions.

Effective May 1, Shell relieved Humble of its crude runs in McCamey field where an average of 3990 barrels daily was maintained in April, and an equal volume in the Bennett sector of the Wasson field. Shell took over Humble's connections in the south portion of Was-

son field April 1. Humble Lipe Pine Company will continue to gather the oil, charging its posted tariff and make deliveries in both areas to Shell Pipe Line Corporation.

Shell stepped up its runs in Lea County by relieving Atlantic of 5500 barrels daily runs in Eunice and Monument fields effective April 25, having previously taken over Atlantic's connections at Hobbs. On same date Shell absorbed 1935 barrels daily allowable in Eunice and Monument fields, and scattered connections in Langlie and Mattic pools heretofore served by The Texas-New Mexico Pipe Line Company.

Shell Pipe Line Corporation operates 10-inch trunk lines from McCamey to Houston and Wood River, Illinois, with the latter averaging capacity load of 45,000 barrels daily.

The surrender of pipe-line connections by Humble is due to congestion at its refinery and tanker terminal at Ingleside (Corpus Christi). Humble Pipe Line Company has suspended operation of its multi unit carrier from West Texas to Ingleside, except Yates field oil received from Illinois Pipe Line Company at Lytle Station near San Antonio.

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

ITEM	Crude Oil Prod.		Runs to Stills		Crude Stocks		Gasoline Stocks		Gas Oil & Distillate Stocks		Residual Fuel Oil Stocks	
	Bbls. Day (Add 000)	Week Ended	Bbls. Day (Add 000)	Week Ended	Bbls. (Add 000)	Week Ended	Bbls. (Add 000)	Week Ended	Bbls. (Add 000)	Week Ended	Bbls. (Add 000)	Week Ended
Highs:												
1939	3,910	8- 5	3,650	10-21	278,607	5-26	87,769	4-22	39,562	10-28	116,237	8-26
1940	3,890	3-16	3,690	6-22	265,865	8-31	102,817	4-20	49,051	10-19	109,135	9-14
1941	4,337	11-22	[1]4,120	10-18	266,187	3-29	99,727	3-29	[1]54,983	11-15	102,448	1- 4
1942	[1]4,337	2- 7	3,961	1- 3	263,208	3-28	[1]107,229	3-14	49,357	1- 3	95,857	1- 3
Lows:												
1939	[3]1,601	8-26	3,125	2-18	[2]229,127	10-21	71,152	10- 7	20,722	4-15	105,397	4- 8
1940	3,335	11-30	3,370	1- 6	237,339	1-27	79,847	11- 9	23,551	4- 6	102,344	2-10
1941	3,364	1-11	3,490	1-18	240,399	11-15	80,870	10- 4	28,381	4-12	92,635	7- 5
1942	3,418	4- 4	3,506	4-25	244,364	1-10	92,987	1- 3	29,240	4-25	81,107	4-25
Trends in 1942 (Week Ended):												
Jan. 3	4,038	.....	3,961	.....	244,440	.....	92,987	.....	49,357	.....	95,857	.....
Jan. 31	3,871	.....	3,848	.....	250,740	.....	97,810	.....	40,674	.....	91,189	.....
Feb. 28	4,016	.....	3,675	.....	259,373	.....	105,635	.....	34,547	.....	88,285	.....
Mar. 28	3,820	.....	3,667	.....	263,208	.....	105,624	.....	31,756	.....	83,045	.....
April 4	3,418	.....	3,515	.....	261,768	.....	105,149	.....	31,231	.....	82,455	.....
April 11	3,543	.....	3,518	.....	258,442	.....	104,580	.....	30,602	.....	82,526	.....
April 18	3,545	.....	3,548	.....	.....	.....	103,502	.....	29,929	.....	82,577	.....
April 25, 1942	**3,581**	.....	**3,506**	.....	.....	.....	**102,897**	.....	**29,240**	.....	**81,107**	.....
April 25, 1941	3,726	.....	3,705	.....	266,149	.....	97,899	.....	28,410	.....	95,636	.....
Change:												
In week	+36	.....	—42	.....	.....	.....	—605	.....	—689	.....	—1,470	.....
In year	—145	.....	—199	.....	.....	.....	+4,998	.....	+830	.....	—14,529	.....
In year	—3.8%	.....	—5.3%	.....	.....	.....	+5.1%	.....	+2.9%	.....	—15.1%	.....

[1] All time peak. [2] Lowest since April, 1922. [3] Lowest since October, 1922, due to shutdown of six Mid-Continent states.

United States Crude Output in Big Drop

With Texas wells shutdown four days and California registering a sharp decline, United States production of crude oil averaged but 3,327,275 barrels daily during the week ended May 2. This was 265,450 barrels less than in the preceding week, and the lowest level since shutdown of six Mid-Continent states in August, 1939.

Texas production was off 222,050 barrels daily, in averaging but 900,950 barrels compared with 1,123,000 barrels the week previous. All areas in the state, with the exception of North Texas where an additional producing day at the request of OPC resulted in recovery of 162,150 barrels per day, registered decreased output.

Due to smaller production at Long Beach, Kettleman Hills and other regions, California produced an average of 618,300 barrels per day last week. A week previous it recovered 648,800 barrels.

Other states showing decreased outputs included Illinois, Indiana, Louisiana, Mississippi and New Mexico. Oklahoma, Kansas and Michigan were the only states to show any appreciable increase.

Michigan Shipments East Limited by Car Shortage

Field allowables of 170 barrels for 20-acre unit wells and 297½ barrels (1¾ factor) for 40-acre unit wells will be continued in May, P. J. Hoffmaster, Michigan supervisor of wells, announced after a meeting of the oil advisory board. The new federal recommendation of 60,500 barrels per day he estimated will be met under present schedules. He said that the "inconclusive evidence" now at hand indicates that the 297½-barrel allowable reaches or exceeds the safety factor.

F. R. Frye, state petroleum engineer, reported that shipment of crude oil to Bayway, New Jersey, so far has not reached the desired level of 10,000 barrels daily, due primarily to a shortage in tank cars. The average has been about 7000 barrels daily, he reported.

Seek Gas Proration Order for Chapel Hill

Sun Oil Company has asked the Texas Railroad Commission for an order to prorate gas in the Chapel Hill field, Smith County. At a hearing before the commission last week, Sun joined by several other operators requesting that a program be applied to gas produced from the gas cap of the Lower Pettit zone.

The gas cap covers about 8000 acres in the center of the field, and Sun engineers estimated that there was an additional 16,000 acres surrounding the gas cap which area would produce oil. Testimony was presented to show that when production from the gas cap is too high, pressures in oil wells producing from the same zone decline abnormally. It was to arrest this pressure decline that the proration program was urged.

The plan offered by Sun provided for a formula tied to the gas-oil ratios of the oil wells. These oil wells are producing now with a ratio averaging about 1000 feet to the barrel. It was estimated that at the current rate of production for the field, that is, the rate in effect for April, each gas well would be allowed to produce about 420,000 cubic feet per day. There was no opposition to the program, which would provide for distributing the gas on a straight acreage basis with a maximum unit of 650 acres assigned to any well in the field.

Complete Third Well On Yondo Concession

Shell Oil Company of Colombia has a third producer, Casabe 3, on its Yondo concession in the middle Magdalena river valley, with indications a field may be developed there. No. 3 was reported recently as testing at the rate of 800 barrels per day from an undisclosed level. Considerable gas is present, which differentiates this well from No. 1 and No. 2. Casabe 1, completed last October and Casabe 2, completed January 20, were rated at several hundred barrels per day each.

Colombian statistics indicate these three wells are the first productive wildcats, outside the Barco and De Mares concessions, in a total of about 80 tests.

Colombian Petroleum Company has production in its Tres Bocas 2-A on the Barco at a point about 12 miles northwest of the Petrolea North Dome field and is building tanks for further testing. No. 2-A is about one half mile west of No. 1, a small producer completed in 1940. No. 2-A was drilled after No. 2 was abandoned last fall at 1987 feet following mechanical difficulties. No. 3, 2 miles east of No. 1, is rigging.

China Moves to Increase Domestic Oil Production

A Chunking dispatch declares the Chinese government, faced with a fuel and gasoline shortage as a result of Japanese seizure of oil fields in Netherlands Indies and Burma, will act to increase domestic production of crude. The Chinese Minister of Economics, accompanied by two technicians, is inspecting oil fields operated by a government agency. Increased imports of oil from Russia are being sought.

Chilean Government Considering Shale Deposit

Spurred by a serious shortage of gasoline and other refined products created by lack of tanker transportation the Chilean government is increasing its efforts to develop domestic production of crude. Consideration is being given to exploitation of large oil shale deposits near Loquimay. In 1937 a committee of engineers recommended the deposits be worked. Last summer the government was exploring possibilities of Riesco island, in the Patos river vicinity, where an anticline was reported found.

Last week Chile leased an Argentine tanker in order to import gasoline from Peru.

Gravity-Scale Crude Oil Prices in Mid-Continent Fields

Posted in most instances between May 19 and May 21, 1941

GRAVITY	Oklahoma-Kansas: Stanolind, Gulf, Texas, Shelly, Barnsdall, Tidewater, Sinclair, Phillips	Oklahoma-Kansas: Carter, Magnolia, Shell	North Louisiana-Arkansas: [1]Rodessa, etc.	North Louisiana-Arkansas: [2]Champagnolle, etc.	North Louisiana-Arkansas: Bunkie, Eola, Olla (by Standard)	North Louisiana-Arkansas: Lisbon, La. (by Gulf)	North Louisiana-Arkansas: [3]Atlanta, Buckner, etc., Ark.	Inland Texas and New Mexico: North and West Central Texas	Inland Texas and New Mexico: [4]Eastern Texas	Inland Texas and New Mexico: West Texas, [17]Panhandle, New Mexico	South Texas: [5]Refugio Type	South Texas: [6]Mirando Type	Texas Gulf Coast: [7]Gulf Coast	Texas Gulf Coast: [8]Anahuac Type	Texas Gulf Coast: [9]Dickinson Type	Louisiana Gulf Coast: [10]Gulf Coast	Louisiana Gulf Coast: [11]Standard of La.	Louisiana Gulf Coast: [12]Texas Co.	Louisiana Gulf Coast: [13]Texas Co.	Louisiana Gulf Coast: [14]Magnolia Pet. Co.	Louisiana Gulf Coast: [15]Shell Oil Co.	Louisiana Gulf Coast: Jennings (by Gulf)	[16]Rocky Mt Area (Salt Creek, etc.)
17-17.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	$0.94	....	....	....
18-18.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.96	....	....	....
19-19.9	....	....	....	....	....	....	....	....	$0.80	$0.70	$1.08	$1.03	$1.06	$0.98	$0.93	$1.06	....	....	....	.98	$0.99	....	....
20-20.9	$0.85	$0.75	....	....	....	....	$0.68	$0.81	.82	.72	1.10	1.05	1.08	1.00	.95	1.08	$0.90	....	....	1.00	1.01	....	....
21-21.9	.87	.78	....	....	....	....	.70	.83	.84	.74	1.12	1.07	1.10	1.02	.97	1.10	.92	....	....	1.02	1.03	....	....
22-22.9	.89	.81	....	....	....	....	.72	.85	.86	.76	1.14	1.09	1.12	1.04	.99	1.12	.94	....	....	1.05	1.05	....	....
23-23.9	.91	.84	....	....	....	....	.74	.87	.88	.78	1.16	1.11	1.14	1.06	1.01	1.14	.96	....	....	1.08	1.07	....	....
24-24.9	.93	.87	$0.88	$0.86	$0.98	....	.76	.89	90	.80	1.18	1.13	1.16	1.08	1.03	1.16	.98	....	....	1.11	1.09	....	....
25-25.9	.95	.90	.90	.88	1.00	....	.78	.91	.97 1.92	.82	1.20	1.15	1.18	1.10	1.05	1.18	1.00	....	....	1.14	1.11	....	....
26-26.9	.97	.93	.92	.90	1.02	....	.80	.93	.99	.84	1.22	1.17	1.20	1.12	1.07	1.20	1.02	....	....	1.17	1.13	....	....
27-27.9	.99	.96	.94	.92	1.04	$0.81	.82	.95	1.01	.86	1.24	1.19	1.22	1.14	1.09	1.22	1.04	....	....	1 19	1.15	....	....
28-28.9	1.01	.99	.96	.94	1.06	.83	.84	.97	1.03	.88	1.26	1.21	1.24	1.16	1.11	1.24	1.06	$1.06	....	1.21	1.17	....	$0.96
29-29.9	1.03	1.02	98	.96	1.08	.85	.86	.99	1.05	.90	1.28	1.23	1.26	1.18	1.13	1.26	1.08	1.08	....	1 23	1.19	....	.98
30-30.9	1.05	1.05	1.00	.98	1.10	.87	.88	1.01	1.07	.92	1.30	1.25	1.28	1.20	1.15	1.28	1.10	1.10	$1.05	1.25	1.21	....	1 00
31-31.9	1.07	1.07	1.02	1.00	1.12	.89	.90	1.03	1.09	.94	1.32	1.27	1.30	1.22	1.17	1.30	1.12	1.12	1.07	1.27	1.23	$1.07	1.02
32-32.9	1.09	1.09	1.04	1.02	1.14	.91	.92	1.05	1.11	.96	1.34	1.29	1.32	1.24	1.19	1.32	1.14	1.14	1.09	1.29	1.25	1.09	1.04
33-33.9	1.11	1.11	1.06	1.04	1.16	.93	.94	1.07	1.13	.98	1.36	1.31	1.34	1.26	1.21	1.34	1.16	1.16	1.11	1.31	1.27	1.11	1.06
34-34.9	1.13	1.13	1.08	1.06	1.18	.95	.96	1.09	1.15	1.00	1.38	1.33	1.36	1.28	1.23	1.36	1.18	1.18	1.13	1.33	1.29	1 13	1.08
35-35.9	1.15	1.15	1.10	1.08	1.20	.97	.98	1.11	1.17	1.02	1.40	1.35	1.38	1.30	1.25	1.38	1.20	1.20	1.15	....	....	1.15	1.10
36-36.9	1.17	1.17	1.12	1.10	1.22	....	1.00	1.13	1.19	1.04	1.42	1.37	1.40	1.32	1.27	1.40	1.22	1.22	1.17	....	....	1.17	1.12
37-37.9	1.19	1.19	1.14	1.12	1.24	....	1.02	1.15	1.21	1.06	1.44	1.39	1.42	1.34	1.29	1.42	1.24	....	1.19	....	....	1.19	1.14
37-38.9	1.21	1.21	1.16	1.14	1.26	....	1.04	1.17	1.23	1.08	1.46	1.41	1.44	1.36	1.31	1.44	1.26	....	1.21	....	....	1.21	1.16
39-39.9	1.23	1.23	1.18	1.16	1.28	....	1.06	1.19	1.25	1.10	1.48	1.43	1.46	1.38	1.33	1.46	1.28	....	1.23	....	....	1.23	1.18
40 & Up	1.25	1.25	1.20	1.18	1.30	....	1.08	1.21	1.27	1.12	1.50	1.45	1 48	1 40	1 35	1.48	1 30	....	1 25	....	....	1 25	1 20

[1] Gulf schedule for Caddo, Homer, Haynesville, Bull Bayou, Crichton, De Soto, El Dorado and Rodessa, Texas. Standard of La. schedule for Cotton Valley, Rodessa, Shreveport (Cross Lake), and Caddo. Magnolia schedule for Haynesville, Cotton Valley, Rodessa, and Miller Co., Ark. Texas Co. schedule for "North Louisiana."

[2] Schedule of Standard of La. for De Soto, Sabine, Fouke, Homer, Miller Co., Sugar Creek. Schedule of Root Petroleum Co. for Nick Springs, Urbana light, Schuler sweet, Rainbow, South Field (El Dorado), and Champagnolle.

[3] Schedule of Standard of La. for Atlanta, Buckner, Magnolia, Schuler: Jones sand, Village. Schedule of Root Petroleum Co. for Schuler: Reynolds lime, and Schuler: Jones sand.

[4] Humble schedule for Anderson, Cherokee, Limestone, and Navarro counties and Navarro Crossing field, except that prices from 80 to 92 cents represent postings only for Hawkins field, Wood County. Rodessa, Texas, prices are same as in Rodessa, La.-Ark.

[5] Schedule for Refugio, E. White Point, Greta, Melon Creek, Midway, Minnie Bock, O'Connor-McFaddin, Plymouth, Saxet, Taft, and Tom O'Connor.

[6] Schedule for Blanchard, Bridwell, Colorado, Comitas, Eagle Hill, Escobas, Fitzsimmons, Glen, Government Wells (N. and S.), Heyser, Hoffman, Kelsey, Kohler, Loma Novia, Lundell, Manila, Mirando Valley, Placedo, Randado, Sarnosa, and Tesoro.

[7] Humble schedule for Amelia, Clear Lake, Goose Creek, Hastings, Magnet, Mykawa, Mykawa new, Raccoon Bend, South Thompsons, Sugarland, Thompsons, Webster. Texas Co. schedule for Arriola, Ganado, Hamman, Hillje, Humble, Kubela, Magnet, Manvel, Markham, Mauritz, Old Ocean, Pickett Ridge, Port Neches, Sour Lake, West Columbia, Withers; except that schedule provides $1.36 top, 34 gravity. Pan American Prod. Co. schedule for Hastings and South Houston. Gulf schedule for Spindle Top, Sour Lake, Lovells Lake, West Beaumont, Goose Creek, South Liberty, Big Creek, Blue Ridge, Fannett, Moore, Barbers Hill, Hankamer, Thompsons, Lochridge, Dyersdale, and Hull (old) crudes. Sun schedule for Barbers Hill, Batson old, Cotton Lake, Esperson below 35 gravity, Goose Creek, Greens Lake, Hull below 25, Humble below 35, Nome, North Dayton below 25, Orange, Saratoga, Sour Lake, South Liberty.

[8] Humble schedule for Anahuac, Angleton, Cedar Point, Fishers' Reef, Hull old and new, Pierce Junction, Red Fish Reef, Turtle Bay fields. Sun schedule for Anahuac, Caplen, and Turtle Bay. Gulf schedule for Anahuac, Hull new, Pierce Junction, Orange and Thompsons deep.

[9] Humble schedule for Dickinson, Gillock, Hardin, League City, and Rowan fields. Pan American Prod. Co. schedule for Gillock crude.

[10] Sun Oil Co. schedule for Bayou Blue, Chacahoula, Fausse Pointe, Hackberry (E. and W.), and Vinton. Texas Co. schedule for Bay St. Elaine, Caillou Island, Iberia, Lake Barre, Lake Pelto, Leesville and Port Barre for crude ranging in gravity up to 27-27.9; for lighter oils in those fields see Footnote 12. Gulf schedule for Edgerly, Starks, Vinton, E. Hackberry Cameron Meadows, Leesville. Deduct 10 cents for Gulf's prices for Timbalier Bay, Grand Bay, Quarantine Bay, and West Bay. Deduct 2 cents for Standard of La. prices for University (Baton Rouge) crude of 30 to 35.9 gravity.

[11] Standard of La. schedule for Bayou Mallet, Choctaw, Darrow, Jeanerette, Lirette, N. Crowley, S. Crowley, Port Barre, Potash, Roanoke, St. Martinville. Deduct 10 cents for Anse La Butte.

[12] Texas Co. schedule for Bateman Lake, Dog Lake, Fausse Point, Horseshoe Bayou, Jefferson Island, Plumb Bob, Vermilion Bay, West Cote Blanche, and Delta Duck Club. Add 8 cents to these prices for Texas Co. postings for 28 or higher gravity at Bay St. Elaine, Caillou Island, Iberia, Lake Pelto, Leesville, Port Barre, and Lake Barre.

[13] Texas Co. schedule for Delta Farms, Golden Meadows, Lake Salvador.

[14] Magnolia schedule for Lockport, Cameron Meadows, West Gueydan.

[15] Shell Oil Co. schedule at Iowa, Black Bayou, White Castle. For Shell's prices at Roanoke and Chalkley fields deduct 5 cents. For Shell's prices at Gibson, South Houma, Hester, and West Lake Verret fields deduct 10 cents.

[16] Sinclair-Wyoming Oil Co. prices at Salt Creek, Lost Soldier, Iron Creek, effective May 20, 1941. Deduct 10 cents for East Mahoney and deduct 20 cents for Mahoney and Wertz.

[17] Add 3 cents for Panhandle prices.

Mid-Continent Flat Prices

FIELD—	Flat Price	Date Posted
Arkansas:		
Big Creek, Dorcheat McKamie	$1.15	5-22-41
Smackover, Heavy	.83	5-22-41
Louisiana, North:		
Cotton Valley Distillate	1.30	5-22-41
Cotton Valley (Holloway sn.)	1.25	5-22-41
Lisbon Distillate	1.20	5-22-41
Louisiana, South:		
Erath	1.21	5-21-41
Garden Island	1.36	5-21-41
Happytown	1.15	5-20-41
Lafitte, Paradis	1.19	5-21-41
Lake Arthur & Tepetate	1.18	5-21-41
Lake Mongoulois	1.36	5-21-41
Ville Platte	1.20	5-21-41
Texas:		
Alice, Benavides (No. Sweden) Ben Bolt Clark-Muil, Sun and Tom Graham	1.35	5-21-41
Cayuga	.90	5-21-41
Chapel Hill 50° and up	1.25	3-19-42
Chapel Hill below 50°	1.18	1-20-42
Clay Creek	1.00	5-22-41
Cleveland	1.26	5-21-41
Conroe	1.43	5-21-41
Darst Creek	1.14	5-21-41
Esperson 35° & up; S. Esperson (Sun Oil)	1.30	5-22-41
East Texas, Flag Lake	1.25	5-20-41
Flour Bluff, East Flour Bluff, and La Rosa	1.33	5-21-41
Hockley-Cochran Counties	.87	5-21-41
Livingston, Cleveland	1.25	5-20-41
Long Lake	1.23	5-21-41
Luling	1.05	5-21-41
Lytton Springs	1.17	5-21-41
North Rincon	1.35	5-22-41
Salt Flat, North Salt Flat Darst Creek, Hilbig, Carroll, Clark, Zoboroski	1.14	5-21-41
Satsuma, Tomball	1.40	5-21-41
Sun Oil Co at Batson (new), Fig Ridge, Hardin, Hull 25 and up, Humble 35 and up, LaBelle, N. Dayton 25 and up, Oyster Bayou, Seabreeze, S. China, W. Orange, and Willow Slough	1.25	5-22-41
South Cotton Lake	1.35	5-22-41
Sun, N. Sun, N. Rincon, Garcia	1.35	5-22-41
Talco	.79	5-21-41
Van	1.08	5-21-41
Yates (Deep)	.95	5-20-41
Yates (Shallow)	.82	5-20-41
Yturria (Sun in S. Texas)	....	.....

Michigan Prices

Central (Basin):		
Porter, Greendale, Crystal, Wise, Midland, Vernon, Saginaw	$1.44	5-27-41
Buckeye, Edenville, Bentley, Beaverton, Monitor, Kawkawlin	1.42	5-27-41
Freeman, Lincoln, Sherman Redding, Temple, Winterfield	1.39	5-27-41
Hamilton-Grout	1.29	5-27-41
Adams	1.27	6- 1-41
Arenac, Clayton, Ogemaw, W. Branch	1.24	5-27-41
Southwest (Shallow):		
Traverse crude in Allegan, Kent, Ottawa, Van Buren Cos.	1.45	6- 2-41
Clare	1.11	5-27-41

Middle West Prices

FIELD—	Flat Price	Date Posted
Lima, Ohio	$1.17	5-28-41
Illinois Basin (Sohio Corp.)	1.37	5-19-41
Lake Centralia-Salem, Illinois	1.37	5-19-41
Eastern Ill.-Western Ind	1.22	5-21-41
Western Kentucky	1.32	5-21-41
Birk City, Western Kentucky	1.32	5-21-41
Kentucky River, Eastern Ky	1.43	6-19-41
Big Sandy River, Eastern Ky	1.38	6-19-41

Rocky Mountain States Prices

Colorado:		
Canon City and Florence	$0.95	4- 1-41
Iles	.97	4- 1-41
Montana:		
Cat Creek	1.15	4- 1-41
Cut Bank	1.00	1- 1-40
Dry Creek	1.02	5-20-41
Sunburst	1.00	5-20-41
New Mexico:		
Artesia	.94	5-21-41
Hogback	1.00	10-11-38
Wyoming:		
Big Muddy	1.03	4- 1-41
Byron	.55	10-11-38
Elk Basin	1.00	5-21-41
Frannie, Light	.70	5-20-41
Frannie, Heavy	.47	5-20-41
Garland	.50	10-11-38
Grass Creek, Light	1.00	5- 1-41
Grass Creek, Heavy	.50	5-20-41
Hamilton Dome	.45	5-20-41
Lance Creek (Ohio Oil Co)	1.12	7- 1-41
Mill Creek	.72	10-11-38
Oregon Basin	.40	4-20-40
Osage	1.30	10-11-38
Poison Spider	.59	10-11-38
Rock River	1.15	5-21-41
Tensleep	.6515	2- 1-41

Wholesale Prices of Refined Products in Principal Markets

REFINED GASOLINE	Current Range (Cents a gal.)		Changes from Month Ago	
Oklahoma Refineries:				
60 Octane and Under	4 3/4	5 1/4	+1/8	...
63-66 Octane	5 1/4	5 5/8	+1/8	...
72-74 Octane	5 1/2	6	+1/8	...
80-82 Octane, Ethyl	6 3/8	6 7/8	+1/8	...
Mid-Western Tank Car:				
60 Octane and Under	4 3/4	5 1/4	+1/8	...
63-66 Octane	5 1/4	5 5/8	+1/8	...
72-74 Octane	5 1/2	6	+1/8	...
80-82 Octane, Ethyl	6 1/2	6 3/4	+1/8	...
New York Harbor:				
68-70 Octane	8 3/8	8 3/8	...	...
72-74 Octane	8 3/8	8 3/8	...	...
Min. 80 Octane, '39 Research	9 3/8	9 3/8	...	...
Gulf Coast:				
60 Octane unleaded	5	5	...	...
65 Octane unleaded	5 1/4	5 3/4	...	...
68 Octane unleaded	5 1/4	5 7/8	—1/4	—3/8
70 Octane unleaded	5 1/4	5 3/4	—1/4	...
72-74 Octane leaded	5 1/4	6	...	...
Min. 80 Octane, '39 Research	5 1/2	5 1/2	—3/4	—1
NATURAL GASOLINE				
Grade 26-70:				
F.O.B. Group 3	2 1/4	2 3/8	...	+1/8
F.O.B. Br'kenr'ge, Tex.	2	2	...	...
KEROSENE				
Oklahoma Refineries:				
41-43 water white	4 3/8	4 1/2	...	...
42-44 water white	4 1/2	4 1/2	...	...
Mid-Western Tank Car:				
41-43 water white	4 3/8	4 3/8	...	—1/4
42-44 water white	4 1/2	4 1/2	...	...
New York Harbor	5 3/4	5 3/4	...	...
Gulf Coast:				
41-43 water white	3 7/8	4 3/8	...	...
RANGE OIL				
At Oklahoma Refineries	4	4 3/8	...	...
In Mid-Western Market Group 3, basis	4	4	...	...
LIGHT FUEL OILS				
Oklahoma Refineries:				
No. 1 prime white	3 7/8	4 1/4	...	...
No. 1 straw	3 1/2	4	...	...
No. 2 straw	3 5/8	4 1/4	...	...
No. 3	3 1/2	3 1/2	...	...
Mid-Western Tank Car:				
No. 1 prime white	3 7/8	4 1/8	...	...
No. 2 straw	3 5/8	3 5/8	...	—1/4
No. 3	3 1/2	3 1/2	...	...
New York Harbor:				
No. 1	5 3/4	5 3/4	...	...
No. 2	5 5/8	5 5/8	...	...
No. 3	5 5/8	5 5/8	...	...
Gulf Coast:				
No. 2	3 3/4	4	...	...

HEAVY FUELS	Current Range (Per Bbl.)		Changes from Month Ago	
Oklahoma Refineries:				
No. 6	$0.80	$0.90	—.05	...
14-16 Gravity	.95	.95	...	...
Mid-Western Tank Car:				
No. 5	.85	.85	...	...
No. 6	.80	.85	—.05	...
New York Harbor:				
No. 5	1.85	2.00	...	...
No. 6	1.55	1.55	...	...
BUNKER C FUEL OIL (Per barrel, ships' bunkers)				
Gulf Coast	$0.85	$0.95	...	...
New York Harbor	1.55	1.55	...	...
DIESEL OIL (Per barrel, ships' bunkers)				
Gulf Coast	$1.55	$1.68	...	...
New York Harbor	2.32	2.32	...	...
LUBRICATING OIL (Cents a gal.)				
Oklahoma Refineries:				
Bright stock (viscosity at 210°):				
200 vis. D, 10-25 pour point	.27	27	...	...
150-160 vis. D:				
0-10 pour point	23	23	...	...
10-25 pour point	22 1/2	23	...	...
25-40 pour point	23	23	...	...
150-160 vis. E	22	22	...	...
120 vis. D, 0-10 pour point	22	22	...	...
600 s.r. dark green	8 1/2	8 1/2	...	...
600 s.r. olive green	10	11	...	...
631 s.r.	18 1/2	18 1/2	...	...
Neutral Oils (viscosity at 100°, 0-10 pour point):				
Pale Oils:				
60-85 vis. No. 2 color	8	8	...	—1/2
86-110 vis. No. 2 color	8 1/2	8 1/2	...	...
150 vis. No. 3 color	14 1/2	14 1/2	...	...
180 vis. No. 3 color	15	15	...	...
200 vis. No. 3 color	15	15	...	...
250 vis. No. 3 color	16	16 1/2	...	...
280 vis. No. 3 color	17	17	...	...
300 vis. No. 3 color	18	18	...	...
Red Oils:				
180 vis. No. 5 color	15	15	...	...
200 vis. No. 5 color	15	15	...	...
280 vis. No. 5 color	...	...	...	...
300 vis. No. 5 color	17 1/2	17 1/2	...	...
Western Pennsylvania:				
Cylinder Stocks:				
600 s.r. filtrable	15	15	...	...
650 s.r.	15 1/2	15 1/2	...	...
600 flash	16	16	...	...
630 flash	17	17	...	...

LUBRICATING OIL (Cents a gal.)			Changes from Month Ago	
Bright Stock (No. 8 Color, 145-155 vis. at 210°, 540-550 fl.):				
10 pour test	30 1/2	30 1/2	...	...
15 pour test	29 1/2	29 1/2	...	...
25 pour test	25	25	...	...
Viscous Neutrals (No. 8 Color, vis. at 70°):				
200 (180 at 100), 420-425 fl.:				
Zero pour test	40 1/2	40 1/2	...	...
10 pour test	39 1/2	39 1/2	...	...
15 pour test	38 1/2	38 1/2	...	...
25 pour test	33	33	...	...
150 (143 at 100), 400-405 fl.:				
Zero pour test	38 1/2	38 1/2	...	...
10 pour test	37 1/2	37 1/2	...	...
15 pour test	36 1/2	36 1/2	...	...
25 pour test	31	31	...	...

Eastern States Crude Oil Prices

FIELD—	Flat Price	Date Posted
Bradford-Allegany	$3.00	3-26-42
Sw. Pa. Pipe Line	2.65	3-26-42
Eureka Pipe Line, W. Va.	2.50	3-26-42
Corning Grade, Ohio	1.31	5-27-41
Buckeye Crude, Ohio	2.30	6-18-41

Major Crude Oil Price Changes

	Penna. Grade	Mid-Cont. (36 Gr.)	Calif. (26 Gr.)
Jan. 1, 1940	Up 25	.....	.....
Feb. 1, 1940	.....	.....	Cut *7
May 22, 1940	Cut 25	.....	.....
June 18, 1940	Cut 25	.....	.....
July 12, 1940	Cut 25	.....	.....
Aug. 28, 1940	Cut 15	.....	.....
Nov. 12, 1940	Up 15	.....	.....
Dec. 17, 1940	Up 15	.....	.....
Jan. 27, 1941	Up 15	.....	.....
April 1, 1941	.....	Up 5	.....
April 23, 1941	Up 10	.....	.....
April 24, 1941	.....	.....	Up *6
May 19, 1941	.....	Up 10	.....
May 21, 1941	Up 15	.....	.....
May 22, 1941	.....	.....	Up *6
June 18, 1941	Up 20	.....	.....
Aug. 14, 1941	Up 23	.....	.....
Aug. 25, 1941	Cut 23	.....	.....
March 26, 1942	Up 25	.....	.....

* Signal Hill 26 gravity.

CRUDE OIL PRICES IN CALIFORNIA

Prices per barrel in field, posted by Standard Oil Company of California, effective May 23, 1941
All gravities above those quoted take highest price offered in that field

Gravity	Signal Hill (Long Beach)	Wilmington	El Segundo	Seal Beach	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Newhall, Kern River, Kern Front, McKittrick, Round Mountain	Greeley, Canal, Waseo	Coles Levee	Mountain View	Elk Hills, Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Kettleman Hills	Elwood Terrace
14-14.9	....	$0.68	....	....	$0.71	....	....	$0.70	....	$0.70	$0.70	$0.70	$0.72	....	....	$0.73	....	....	....	$0.73	$0.73	$0.73	....	....
15-15.9	....	.71	....	....	.75	$0.76	....	.72	....	.72	.71	.72	.72	....	....		....	....	....	.73	.73	.73	....	....
16-16.9	....	.74	$0.79	....	.79	.79	....	.75	....	.74	.73	.75	.72	....	....		....	....	....	.73	.75	.73	....	....
17-17.9	....	.78	.82	....	.82	.82	....	.78	....	.77	.76	.78	.72	....	....		....	....	....	.75	.78	.73	....	....
18-18.9	$0.80	.82	.86	....	.86	.85	....	.81	....	.80	.79	.82	.74	....	....		....	....	....	.78	.81	.73	....	....
19-19.9	.84	.86	.90	....	.89	.88	....	.85	....	.83	.82	.85	.77	....	....	Wheeler Ridge	....	....	$0.73	.81	.84	.75	....	....
20-20.9	.88	.90	.94	....	.93	.92	$0.80	.88	....	.86	.85	.89	.80	....	....		....	....	.76	.85	.87	.77	....	....
21-21.9	.92	.94	.98	....	.96	.95	.84	.91	....	.89	.89	.92	.84	....	....		....	....	.79	.90	.90	.80	....	....
22-22.9	.96	.98	1.02	$0.88	.99	.98	.87	.95	....	.93	.93	.96	.87	....	....	$0.76	....	....	.83	.94	.93	.83	....	....
23-23.9	1.00	1.02	1.05	.92	1.02	1.01	....	.98	....	.97	.98	1.00	.91	....	....	.80	....	....	.87	.99	.96	.86	....	....
24-24.9	1.03	1.06	1.07	.97	1.05	1.04	F.O.B.	1.01	....	1.01	1.02	1.03	.94	$0.99	....	.83	....	....	.90	1.03	.99	.89	....	....
25-25.9	1.07	1.09	1.10	1.01	1.08	1.07	Our	1.04	....	1.05	1.06	1.07	.98	1.02	....		....	....	.94	1.07	1.01	.92	....	....
26-26.9	1.11	1.12	1.12	1.06	1.11	1.10	Pipe	1.08	....	1.09	1.10	1.11	1.01	1.06	....	....	....	....	.97	1.11	1.04	.95	....	....
27-27.9	1.15	1.15	1.15	1.10	1.14	1.14	Line	1.11	....	1.13	....	1.15	1.05	1.10	$1.04	....	....	....	1.01	1.15	1.07	.98	....	....
28-28.9	1.18	1.18	1.17	1.15	1.17	1.17	....	1.14	....	1.17	....	....	1.08	1.13	1.08	....	....	....	1.04	1.19	1.10	1.00	....	....
29-29.9	1.20	1.21	....	1.19	1.20	1.20	....	....	$1.17	....	....	....	1.12	1.17	1.12	....	....	....	1.07	1.24	1.13	1.02	....	....
30-30.9	1.23	1.24	....	....	1.23	1.22	....	*	1.21	....	....	....	1.15	1.21	1.15	....	$1.01	$1.09	1.10	1.28	1.16	1.04	....	F.O.B.
31-31.9	....	....	....	....	....	1.24	....	....	1.25	....	....	....	1.19	1.24	1.19	....	1.04	1.12	1.14	....	....	1.06	....	Ship
32-32.9	....	....	....	....	....	....	....	....	1.29	....	....	....	1.23	1.28	1.23	....	1.07	1.14	1.17	....	....	1.09	....	
33-33.9	....	....	....	....	....	....	....	....	1.32	....	....	....	1.27	....	1.26	....	1.10	1.17	....	....	....	1.11	....	$1.22
34-34.9	....	....	....	....	....	....	....	....	1.36	....	....	....	1.31	....	1.30	....	1.13	1.20	....	....	....	1.13	....	1.25
35-35.9	....	....	....	....	....	....	....	....	....	....	....	....	1.35	....	....	....	1.16	1.22	....	....	....	....	$1.23	1.28
36-36.9	....	....	....	....	....	....	....	....	....	....	....	....	1.39	....	....	....	1.19	1.25	....	....	....	....	1.26	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	....	1.43	....	....	....	1.22	....	....	....	....	....	1.29	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	....	1.47	....	....	....	1.25	....	....	....	....	....	....	....
39-39.9	....	....	....	....	....	....	....	....	....	....	....	....	1.51	....	....	....	....	....	....	....	....	....	....	....
40-40.9	....	....	....	....	....	....	....	....	....	....	....	....	1.53	....	....	....	....	....	....	....	....	....	....	....

U. S. Field Operations

Illinois

Gallatin Wildcat Has Saturation in Cypress

Cypress saturation at Gallatin County wildcat; Aux Vases saturation cored in Franklin County wildcat; Lawrence County well shows for pool opener; Clinton County oil discovery, offsetting gas well near completion; 622-bbl well gives Dale field slight southwest extension; 42 first reports set record for year.

Gallatin County: R. Bruce Martin's Bahl 1, Seaboard farmout, SE SE NW 15-8s-9e, five miles west Inman field, moving in standard tools to drill plug; 7-inch at 2483 ft on Cypress, saturation 2483-93 ft; on hour's drill stem recovered 160 ft free oil, 35 ft oily mud, no water; gas showed in 37 minutes; elev 371 ft, West Frankfort 213 ft, Palestine 1950 ft, slight show 1958-62 ft, Menard 2002 ft, Lower Menard 2045 ft, Tar Springs 2197 ft, upper Glen Dean 2231 ft, Main Glen Dean 2265 ft, Hardinsburg 2316-22 ft, Golconda 2342 ft, Barlow 2474-79 ft.

Franklin County: Sun's Old Ben Coal Co., NW NE NW 25-5s-1e, coring below 2840 ft; on hour's drill stem of Aux Vases 2687-2714, 40 ft of free oil and 40 ft of oil-cut mud, no water was recovered.

Lawrence County: W. R. White et al's Hershey 1, SE SW SE 27-2n-12w, showing for 50- to 75-bbl Benoist well 2016-18 ft; test is just north of Wabash County line in wildcat area.

Clinton County: E. Frank Jones' Harrison 1, NE SE NW 2-2n-2w, offset to Texas' Gray 1, Devonian gas well completed several months ago, swabbed 120 bbls oil in 9 hours natural, putting on pump; Benoist 1210-19 ft, total depth 1219 ft. Gray 1, shut in since its completion, had Benoist saturation 1200-25 ft and company is preparing to drill Gray 2 as an oil test to Benoist.

Hamilton County: Texas Co.'s M. Ervin 1, SE NE SW 12-6s-6e, flowed 622 bbls in 24 hours after 40-quart shot in Aux Vases 3030-45 ft to extend Dale field one location to the southwest.

Clay County: Eason Oil Co.'s A. Miller 1, C SW NE 35-5n-6e, 11 miles north of Flora, WOC after squeeze job; swabbed only water when plug was drilled to test Aux Vases 2726-42 ft, total depth 2924 ft.

Gulf's Mary Storch 1, C SE SE 5-5n-7e, swabbed 355 bbls in 20 hours from 2813-16 ft, second McClosky producer in Bible Grove field.

Results on Industry's Prospecting Fronts

Completion of 62 wildcats reported during week includes 6 oil producers, bringing total discoveries for year to 113.

East Texas: Verdicts soon on several deep tests.

West Texas: Two fields extended.

North Texas: Clingsmith extension may be new pool.

Illinois: Several tests show favorably.

Oklahoma: Wildcats in two counties show.

COMPLETIONS

Clark County: Wildcat—O. J. Jeffers' Canady 1, sw sw ne 1-9n-12w, abnd 557 ft.

Clay County—Pure's Babcock 1, cne ne 10-2n-7e, McClos. 3057-65 ft, 3067-3070 ft, td 3085 ft, 94 bbls.

Clay County: Wildcat—Gulf's Levitt 1, ne se sw 21-4n-8e, abnd 3170 ft.

Clinton County: Wildcat—Jack Darnell's Gordon 1, cne sw 6-3n-2w, abnd 1166 ft.

Crawford County—Highland Oil Co.'s Wiman 1, cn½ nw se 19-8n-13w, abnd 1190 ft.

Edwards County: Wildcat—Dave Percha's Hessler 1, c ne nw 7-1s-14w, abnd 3331 ft.

Fayette County: Wildcat—Illinois Explor.'s Stokes 1, c sw sw 1-8n-1w, abnd 1786 ft.

Hamilton County—Dave Ring's Johnson 2, cne sw 21-6s-5e, abnd 3395 ft.

Superior's Darnell 5, sw nw ne 22-6s-5e, abnd 3225 ft.

Ohio's Moore 1, sw se se sw 3-6s-6e, td 2179 ft, salt water disposal.

Texas' Irwin 5, ne ne se 27-6s-6e, A. V. 3053-3095 ft, td 3100 ft, 44 bbls.

Carter's Edwards 2, cse nw 15-7s-8e, Walters. 2208-2220 ft, td 2220 ft, 136 bbls.

Jasper County—Jablonski's Benefeil-Krouse 1, c se nw 5-5n-14w, abnd 2871 ft.

Pure's Stanley 2, c sw ne 19-5n-10e, McClos. 2841-46 ft, 2851-54 ft, td 2870 ft, 28 bbls.

Marion County: Wildcat—Seaboard's Miller 1, sw sw nw 8-3n-4e, abnd 2541 ft.

Perry County: Wildcat—Illinois Explor.'s Chapman 1, cne nw 27-4s-2w, abnd 1740 ft.

Saline County: Wildcat—Frank Summers' Roberts 1, se sw ne 6-8s-7e, abnd 3044 ft.

Shelby County—B. J. Taylor et al's Davis 1, c se sw 8-10n-4e, abnd 1953 ft.

Wayne County—Pure's Carson 4, ce½ nw ne 11-1n-7e, McClosky 3022-26 ft, 3027-30 ft, 2032-36 ft, td 3040 ft, 16 bbls.

Swan King's Dale-Spencer 3, ce½ se ne 28-1s-6e, A. V. 3044-3070 ft, McClos. 3165-3177 ft, td 3216 ft, 220 bbls.

Wayne County: Wildcats—Ira Showalter et al's Leppo 1, cw½ nw sw 24-2n-5w, abnd 3028 ft.

Carter's Wright 1, cnw sw 23-2s-6e, abnd 3399 ft.

White County: Wildcat—Sun's Hertlein 1, s½ se nw 13-4s-9e, McClos. 3259-3264 ft, td 3269 ft, 94 bbls.

OLD WELLS DEEPENED

Marion County—Magnolia's Chitwood 10, se ne sw 16-2n-2e, Bethel 1803-61 ft, otd 1846 ft, td 1861 ft, 10 bbls.

Magnolia's Chitwood 11, nw nw se 16-2n-2e, Bethel 1816-65 ft, otd 1862 ft, td 1865 ft, 55 bbls.

Magnolia's Young 41, se ne se 20-2n-2e, McClos. 1921-2250 ft, otd 2250 ft, td 2300 ft, 45 bbls.

Magnolia's Young 44, w½ ne se se 20-2n-2e, otd 2250 ft, td 2302 ft, 50 bbls.

Magnolia's Shanafelt 17, s½ nw nw 21-2n-2e, McClos. 1984-2050 ft, 2090-2254 ft, otd 2070 ft, td 2254 ft, 77 bbls.

Magnolia's Shanafelt 22, se nw nw nw 21-2n-2e, McClos. 1994 ft, otd 2075 ft, td 2252 ft, 51 bbls.

Magnolia's Shanafelt 26, n½ n½ nw 21-2n-2e, McClos. 2006-2232 ft, otd 2115 ft, td 2245 ft, 35 bbls.

Magnolia's Shanafelt 27, cs½ ne nw 21-2n-2e, McClos. 1995 ft, otd 2056 ft, td 2240 ft, 60 bbls.

Magnolia's Shanafelt 30, cn½ ne nw 21-2n-2e, McClos. 2000 ft, otd 2086 ft, td 2225 ft, 55 bbls.

Magnolia's Young 34, nw nw sw 21-2n-2e, McClos. 1949-2290 ft, otd 2060 ft, td 2290 ft, 92 bbls.

Magnolia's Young 59, nw sw sw 21-2n-2e, otd 2060 ft, td 2300 ft, 270 bbls.

Magnolia's Young 60, sw nw sw 21-2n-2e, otd 2065 ft, td 2290 ft, 102 bbls.

Magnolia's Young 26, cn½ n½ sw 21-2n-2e, McClos. 1991-2235 ft, otd 2050 ft, td 2254 ft, 7 bbls.

Magnolia's Young 48, nw nw nw 28-2n-2e, otd 2070 ft, td 2290 ft, 30 bbls.

Magnolia's Young 72, s½ sw nw nw 28-2n-2e, otd 2100 ft, td 2290 ft, 93 bbls.

Magnolia's Shanafelt 23, se se sw 29-2n-2e, otd 1990 ft, McClos. 1889-2300 ft, td 2316 ft, 36 bbls.

Magnolia's Young 14, nw sw ne 29-2n-2e, otd 2046 ft, td 2350 ft, 38 bbls.

WILDCAT STARTS

Bond County—Shell's Hailer 1, sw ne sw 4-5n-2w, dr.

Clay County—J. R. Benson et al's Minnich et al's 1, ne sw ne nw 33-3n-7e, lcn.

Crawford County—Curtis Oil Co.'s Lingafelter 1, ne se ne 8-8n-13w, lcn.

Jasper County—Sinclair-Wyoming Oil's Birch 1, se ne ne 18-5n-8e, lcn.

Oexner Oil Prod.'s Higgins 1, c e½ sw sw 17-7n-10e, lcn.

Marion County—W. O. Morgan's Doolen 1, ne se 5-4n-1e, lcn.

Richland County—Seaboard Co.'s Kimmel 1, ce½ se sw 32-3n-14w, lcn.

St. Clair County—Emil Burgard et al's White 1, sw sw sw 4-2s-6w, lcn.

Wayne County—Clay Wilson et al's Ward 1, se ne 15-1n-5e, lcn.

U. S. Drilling Operations in Week Ended May 2, 1942

STATE	ALL WELLS COMPLETED — THIS WEEK Total	Oil	Gas	Dry	†Miscel.	Total 1942	Total this Date 1941	WILDCATS COMPLETED‡ — THIS WEEK Total	Oil	Gas	Dry	Distillate	Total 1942
Alabama	.....	....	....	....	....	3	.....	....	....	....	....	....	3
Arkansas	2	....	....	2	....	46	55	1	....	....	1	....	7
California	8	7	....	1	....	276	364	....	....	....	....	....	8
Colorado	.....	....	....	....	....	4	6	....	....	....	....	....	....
Georgia	.....	....	....	....	....	2	.....	....	....	....	....	....	2
Illinois	40	7	....	15	18	617	1,089	12	2	....	10	....	140
Indiana	10	5	....	4	1	125	161	5	1	....	4	....	13
Kansas	20	7	....	10	3	516	666	9	....	....	9	....	121
Kentucky	2	1	....	1	....	50	99	....	....	....	....	....	3
Louisiana	19	13	....	6	....	365	449	3	....	....	3	....	56
Michigan	7	2	1	4	....	224	265	4	....	....	4	....	54
Mississippi	1	....	....	1	....	53	49	1	....	....	1	....	14
Missouri	.....	....	....	....	....	9	22	....	....	....	....	....	....
Montana	.....	....	....	....	....	51	66	....	....	....	....	....	....
Nebraska	1	1	....	....	....	17	30	....	....	....	....	....	6
New Mexico	5	5	....	....	....	138	119	....	....	....	....	....	10
New York	21	12	....	....	9	410	229	....	....	....	....	....	1
Ohio	21	5	8	7	1	396	532	....	....	....	....	....	....
Oklahoma	26	8	2	11	5	554	668	6	1	1	4	....	93
Pennsylvania	44	40	2	1	1	1,123	1,241	....	....	....	....	....	....
Tennessee	.....	....	....	....	....	2	7	....	....	....	....	....	....
Texas	100	64	5	30	1	2,420	3,123	21	2	....	19	....	382
West Virginia	16	3	8	2	3	244	235	....	....	....	....	....	....
Wyoming	.....	....	....	....	....	30	37	....	....	....	....	....	2
Total this week	343	180	26	95	42	7,675	9,512	62	6	1	55	....	915
Total last week	232	139	21	59	13	7,332	8,869	37	4	1	32	....	853
Total this year	7,675	4,438	610	1,868	759	.....	.....	915	113	12	784	6	....

† Includes old wells deepened, water intake, gas input, and salt water disposal wells.
‡ OPC program calls for 4,000 wildcats in 1942, of which 624 should produce oil and 116 gas, leaving 3,260 dry.

Indiana

Posey County Well Testing Pennsylvanian

Carter Oil Co.'s Mabel Baker 1, C SE NE 8-7s-14w, Posey County, west offset to company's James Baker 1, recently completed McClosky pool-opener, has set casing at 1037 ft to test Pennsylvanian sand saturation. Mabel Baker 1 was dry in McClosky and plugged back to 1050 ft.

Knox County: A. W. Cherry and Barron Kidd staked location for Steckler 1, SW NE NW 13-1s-12w, wildcat three miles southwest of Orrville.

Pike County: S. C. Yingling's Blaize 1, C NE NW 12-1s-9w, wildcat six miles north and one mile west of Oakland City, was drilling at 900 ft.

Posey County: Sun Oil Company's L. C. Byrd 1, NE NE 4-8s-14w, wildcat in southern part of the county, was waiting on cement squeeze to shut off water which flowed following 3000-gallon acid in McClosky at 2649-53 ft. Aux Vases pay at 2602-21 ft has not been tested.

COMPLETIONS

Gibson County—Kingwood Oil's Fithian 1, ce½ se se 23-1n-10w, Osage lime 2402-08 ft, td 3451 ft, pb 2447 ft, 66 bbls.

Knox County—Sinclair Wyoming's Brevoort 1, sw sw se 15-2n-11w, Bethel 1737-1750 ft, pb 1772 ft, td 1936 ft, 12 bbls.

Posey County: Wildcat—Carter's Kiltz 1, c ne nw 8-6s-13w, dry 3051 ft.

Carter & Gulf's Hallenberg 1, c sw nw 1-7s-14w, abnd 2918 ft.

Carter & Gulf's Spencer 1, cse sw 1-7s-14w, Walters, 2026-28 ft, pb 2040 ft, td 2570 ft, 196 bbls.

Spencer County—R. Hal Compton et al's Steward 1(3), sw se nw se 27-6s-5w, Cypress 875-889 ft, td 889 ft, 65 bbls.

R. Hal Compton et al's Steward 2(4), se se ne se 26-6s-5w, Cypress 877-887 ft, td 887 ft, 5 bbls.

Vanderburg County: Wildcats—Amerlagene, Inc.'s Eichle 1, ne nw 29-6s-11w, abnd 2678 ft.

Glenwood's Kamp 1, cnw sw 15-7s-11w, dry 1652 ft.

OLD WELL DEEPENED

Pike County—A. V. Burden's Frederick 1, ne ne nw 28-1n-9w, otd 1646 ft, abnd 1646 ft.

WILDCAT STARTS

Pike County—Skelly's Sollman 1, sw ne ne 14-3s-7w, lcn.

Posey County—F. J. Fleming's Moorelock 1, well deepened, c nw se ne 26-7s-14w, dr.

KENTUCKY

COMPLETIONS

Union County—Snowden & McSweeney's Wahl 1, 20-O-18, Pann sand 953-968 ft, pb 968 ft, td 1432 ft, 5 bbls.

Webster County—Sun Oil's Gibson 1, 19-N-22, dry 2790 ft.

WILDCAT STARTS

Grayson County—Louisville Gas & Electric Co.'s Cockreil 1, 5-K-39, dr.

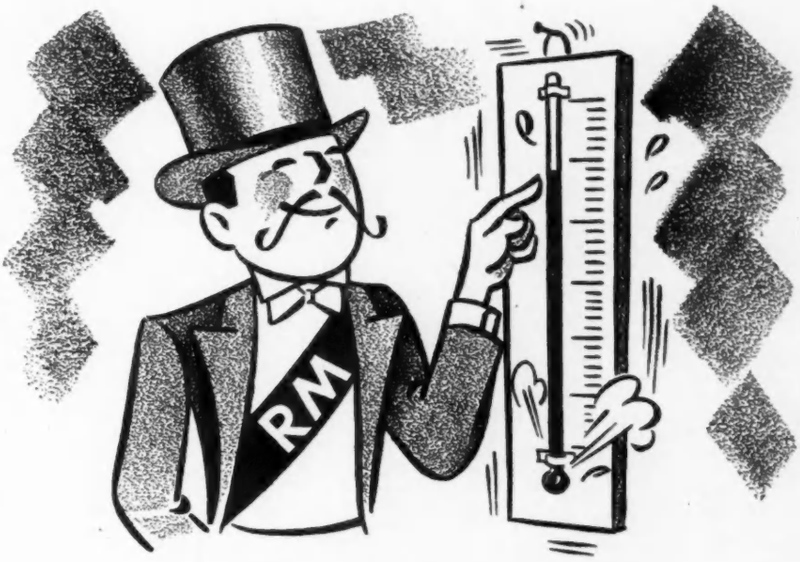
Louisville Gas & Electric Co.'s Constant 1, 12-K-39, lcn.

Oklahoma

Wildcat Shows Reported In Payne and Seminole

Wildcat in Payne shows oil; one in Seminole shows gas. Pauls Valley discovery testing with offset running low. Apache deep test plugging, other wells this field indeterminate.

Marshall County: Pure Oil Co.'s Teeter 1, SE SW NW 31-4n-1e, tested through 22/64-in choke for 116 bbls oil, 17 gas in 5¾ hrs. Same company's Price 1, SW SW SE 4-3n-1e, southeast of discovery is checking low in Pennsylvania at 3842 ft. Samedan Oil Co.'s Godfrey-Neff 1, C NE SW 13-6s-6e, wildcat, showing high in strata at 1500



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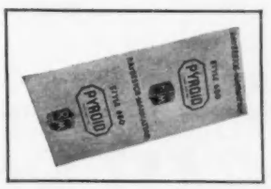

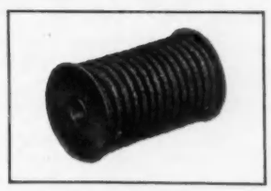

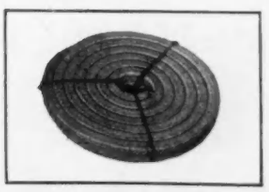

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ft. Marshall & Kubat's McCormick 1, Sec 4-6s-6e, drilled McLish, pulled bleeding core, tested for no production, is shut down.

Payne County: Phillips Petroleum Co.'s State School Land 1, SW NE NE 36-18-1e, wildcat between Coyle and Ramsey, plugged back from salty Wilcox to Hunton, 4746 to 4757 ft where perforated and produced 46 bbls oil, 33 bbls water, shut in for tankage.

Seminole County: Shell Oil Co.'s Norvell 1, NE SE SW 25-11-5e, southwest of Rusk production, showed for million gas in Cromwell, 50 ft high, at 3657 ft.

COMPLETIONS

Creek County: North Bristow—M. Marrs' Turner 1, nw nw ne 21-17n-8e, n Jones sand 1647-72 ft, td 2375 ft, pb 1675 ft, pump 45 bbls.

Creek County: Glenn—Gulf's Jackson 31, cw½ sw 16-17n-12e, Base Glenn 1550 ft, td 1559 ft, shot 260 qts, pump 25 bbls.

Sinclair Prairie's Berryhill 35, se nw se nw 16-17n-12e, Base Glenn 1574 ft, td 1575 ft, repressure well.

Kay County: Dilworth—West Virginia's Fox 8, sw nw ne 19-28n-1e, Wilcox 3292-3308 ft, td 3314 ft, pump 46 bbls.

Kay County: Tonkawa—Helmerich & Payne's Wood 1, nw nw sw 19-25n-1w, Oswego 3963-90 ft, abnd 4380 ft.

Kay County: Unnamed—Ingling & Parker's State 3, se sw ne 36-25n-1w, Upper Hoover 1860 ft, abnd 1861 ft.

Lincoln County: Wildcat—Norbla & Piggott's Meyer 1, se se ne 12-16n-5e, abnd 3480 ft.

Logan County: Lovell—Champlin's Lovell 1, c nw ne 16-18n-4w, sand 3119-35 ft, abnd 3414 ft.

McClain County: Byars—Patsy Oil Co.'s Caldwell 6, cw½ se se 16-5n-3e, Viola 3565 ft, td 3671 ft, pb 3602 ft, 2000 gals acid, pump 5 bbls oil and 400 bbls water, abnd.

Muskogee County: Unnamed—Wagester & Johnson's Johnson 1A, ne c ne 23-13n-18e, sand 496 ft, abnd 600 ft.

Okfuskee County: Wildcat—British-American's Dodson 1, sw nw nw 31-12n-10e, Wood. 3764 ft, Hunton 3776 ft, Glc. 3125 ft, Crom. 3307 ft, td 3794 ft, 500 gals acid, 40 bbls oil, 50 bbls water.

Oklahoma County: Oklahoma City—H. & H. Drlg. Co.'s Whetfield 1A, se c ne se 34-12n-3w, sand 2737 ft, abnd 2750 ft.

Okmulgee County: Bald Hill—Cline's Fife 1A, se c nw 25-15n-13e, sand 1718-28 ft, td 1728 ft, 4,500,000 gas, 575 lbs. rock pressure.

Osage County: East Hominy—Norbla et al's 1, nw nw ne 25-22n-9e, Bartlesv. 2045 ft, td 2086 ft, shot 40 qts, pump 30 bbls oil, 7 bbls water.

Osage County: Wildcat—A. G. Oliphant's Osage 1, ne sw se 3-24n-10w, abnd 2046 ft.

Pawnee County: Manford—Johnson Oil & Ref. Co.'s Lewis 1, cn½ nw se 20-20n-9e, Miss. 2439 ft, abnd 2514 ft.

Pottawatomie County: Hotulka—R. Olsen's Hollingsworth 1, nw sw 24-9n-4e, Hunton 4185 ft, td 4220 ft, flow 437 bbls.

Phillips' Billington 1, sw ne 25-9n-4e, Hunton 4108 ft, td 4491 ft, perf, 3000 gals acid, 128 bbls oil through choke.

Seminole County: Wildcats—Texas Co.'s Jackson 1, ne se se 15-7n-7e, Calvin 1685-1915 ft, cored 1695-1708 ft, 5 ft, sand, Henryetta Coal 2060 ft, Cromwell 3500 ft, abnd 3515 ft.

Richard Hughes et al's Grugg 1, se ne se 13-11n-7e, Checkerboard 1330 ft, Cleveland 1350 ft, Osw. 2125 ft, Prue 2140 ft, Verd. 2535 ft, Skinner 2645 ft, Inola 3160 ft, Br. ls. 3340 ft, sand 3660 ft, abnd 3680 ft.

Stephens County: Empire—J. E. Jackson's Taliferro 1B, se nw sw 27-1s-8w, sand 2211-27, td 2285 ft, perf casing, pump 20 bbls oil, 5 bbls water.

Texas County: Wildcat—Peerless Oil & Gas' Woodward 1, c ne 3-5n-18e, salt water 2740 ft, 8000 gals acid, 8,000,000 gas.

OLD WELLS DEEPENED

Creek County: Glenn—Sinclair Prairie's Berryhill 6, sw sw nw 16-17n-12e, otd 1500 ft, Glenn 1395-1570 ft, td 1572 ft, pump 11 bbls.

Okfuskee County: Olympic—Sinclair Prairie's Cohee 2, sw sw nw 19-10n-9e, otd 1883 ft, sand 1883-1903 ft, td 1904 ft, shot 40 qts, pump 27 bbls oil, 30 bbls water.

WILDCAT STARTS

Carter County—S. F. & W. H. Hernstadt's Fee 1, c nw se 29-3s-3w, lcn.

Creek County—Superior Oil's Perryman 1, sw nw se 34-16n-7e, lcn.

Garvin County—Pure Oil's Price 1, c sw sw se 4-3n-1e, dr.

Hughes County—Phillips Pet.'s Ross 1, c ne se 18-5n-10e, lcn.

Lincoln County—Wilcox Oil & Gas' Kolar 1, sw sw sw 5-12n-6e, rig up.

Dunnette Oil Co.'s Strickey 1, sw sw ne 25-13n-2e, rig up.

Eason's Erwin 1, c ne nw 32-15n-2e, dr.

Pontotoc County—Stanolind Oil & Gas' Mayhue 1, cn½ ne nw 19-2n-6e, lcn.

Pottawatomie County—Piggott's Cofer 1, ne ne nw 18-9n-3e, dr.

Continental's Baker 1, sw se se 33-9n-3e, dr.

Seminole County—Big Chief's Creach 1, cn½ ne se 29-8n-7e, rig.

Shell's Norvell 1, ne se sw 25-11n-7e, dr.

Kansas

Drach and Smyers Production Extended

Gas test for far east Kansas; important wildcat in Pratt; Drach and Smyers extended.

Crawford County: A test for gas is scheduled by K. W. Hagan and C. A. Bryant, Oklahoma operators, at Slawson 1, 27-29-24e, near Girard. Gas demand in area exceeds volumes available. Production would be shallow with Squirrel, Peru, Oswego, Bartlesville and Mississippi lime as most probable pay strata, all above 2000 ft.

Stafford County: Stanolind's Harms 1, C N½ NE NW 18-22-12w, 5/8 mi east of production in Drach, topped Arbuckle 3666 ft, swabbed 43 bbls 2 hrs, made potential 75 bbls after acid.

Rice County: Smyers pool was extended ½-mi at W. C. McBride's Hill 1, NEc SW SE 36-19-6w. Well checked low all way and in commercially completing makes pool look better. Good porosity and saturation was picked up in Mississippi chat at 3376 ft.

COMPLETIONS

Barton County: Silica—Magnolia's Roetzel 9, cn½ nw se 25-20s-11w, Arb 3301 ft, td 3314 ft, pump 125 bbls.

Barton County: Wildcat—Vickers' Metz 1, cn½ ne nw 33-20s-11w, Lansing 3114 ft, Arb 3370-75 ft, abnd 3375 ft.

Butler County: Semi-Wildcat—Cromwell & Lewis' Benninghoff 1, ne se nw 17-28s-6e, Simpson 3132 ft, abnd 3144 ft.

Chase County: Wildcat—Leader's Breese 1, sw se ne 35-19s-7e, abnd granite 1934-40 ft.

Cowley County: Wildcat—Fred Koch's Martin 1, cw½ nw ne 17-31s-4e, Topeka 1273 ft, Stalnaker 1940 ft, 2nd Stalnaker 2182 ft, K.C. 2375 ft, Miss. 2986 ft, Base Miss. 3290 ft, Arb. 3370-82 ft, abnd 3382 ft hole full of water.

Harper County: Wildcat—H. M. Williams' Lahman Est 1, cnw sw 1-34s-6w, K.C. 3763 ft., Miss. 4433 ft, Arb. 5099 ft, abnd 5127 ft.

Leavenworth County: Wildcats—O. J. Connell et al's Hemphill 1, cnw se 14-12s-20e, Sand 1210-17 ft, Miss. 1217-52 ft, abnd 1252 ft hole full water.

O. J. Connell et al's Hopkins 1, cnw se 1-12s-20e, Miss. 1220 ft, abnd 1260 ft hole full water.

McPherson County: Lindsborg—M & L Oil Co.'s Carlson 1, c w½ se ne 7-17s-3w, Viola 3353 ft, pay 3353-55 ft, td 3372 ft, 4000 gals acid, pump 486 bbls.

Reno County: Unnamed—Dines et al's Peterson 1, se se se 35-22s-10w, Viola 3692 ft, td 3744 ft, pb 3745½ ft, Viola 3692 ft, 500 gals acid, pump 76 bbls oil 10% water.

Reno County: Wildcat—N. Appleman & Hollow's Fair 1, se sw sw 16-22s-9w, Anhy. 355 ft, Topeka 2670 ft, Lansing 3157 ft, Congl. 3494 ft., Kinderhook 3524 ft, Kinderhook ls 3612 ft, Viola 3668 ft, Simpson sand 3744 ft, Simpson shale 3746 ft, Arbuckle 3797 ft, abnd 3830 ft.

Rice County: Smyers—Continental's Johns 1, ne se nw 36-19s-6w, Miss. 3322 ft, td 3376 ft, shot 30 qts at 3340-52 ft, pump 210 bbls oil, 30 bbls water.

Westgate-Greenland's Smyres 1, ne se sw 36-19s-6w, Miss. 3332 ft, td 3359 ft, 3000 bbls.

Rice County: Wildcat—Brunson Drlg. Co.'s Ringwald 1, cn½ ne nw 32-18s-10w, Anhy. 530 ft, Ft. Riley 1475 ft, Topeka 2555 ft, Lansing 2942 ft, Congl. 3218 ft, Arb. 3315 ft, abnd 3348 ft hole full water.

Russell County: Forrest Hill—N. Appleman's Steinle 2, cn½ ne nw 29-15s-12w, Arb. 3338 ft, td 3351 ft, pump 124 bbls.

Russell County: Trapp—Champlin's Tittle 1, cs½ sw se 14-15s-14w, Arb. 3314 ft, td 3355 ft, 384 bbls.

Thomas County: Wildcat—Alva Billings et al's Ryan 1-A, ce½ ne se, Miss. 4647-52 ft, abnd 4652 ft.

OLD WELLS DEEPENED

Barton County: Trapp—Shell's Schneider B-10, nw se nw 1-16s-14w, otd 3320 ft, Precambrian 3590 ft, td 3618 ft, salt water disposal.

Rooks County: Westhusin—Atlantic's McClay 1, nw nw sw 12-9s-17w, otd 3238, td 3311 ft, Lansing 3140 ft, pay 3241-43 ft, and 3306-11 ft, 5000 gals acid, pump 1314 bbls oil plus 6% water.

Russell County: Fairport—N. Appleman Co.'s Dodge 3, se nw sw 32-11s-15w, otd 2869 ft, Reagan sand 3147 ft, td 3152 ft, 124 bbls.

WILDCAT STARTS

Ellsworth County—J. W. Murfin et al's Besthorn, nw nw se 16-17s-10w, lcn.

Jefferson County—W. D. Dunn's Oglebie 1, ne nw sw 21-10s-20e, dr.

Norton County—Stanolind's Steelsmith 1, sw sw sw 28-4s-24w, lcn.

Rice County—Herndon Drlg.'s Wellman 1, sw sw sw 20-21s-9w, dr.

Russell County—Colorado Pet.'s Berrick 1, cn½ ne nw 13-15s-13w, sur.

Saline County—Phillips Pet.'s Flo 1, cs½ ne se 29-17s-1w, pits.

Stafford County—Lion Oil & Ref's Wiederoder 1, sw nw sw 12-23s-11w, lcn.

Thomas County—Alva Billings et al's Ryan 1-A, ce½ ne se 27-8s-32w, comp.

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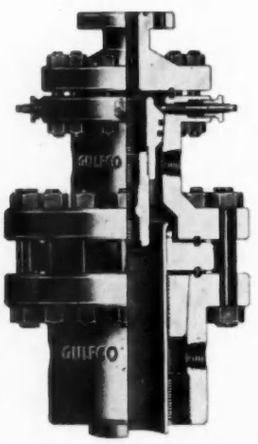

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Wilcox Sand Shows In Dawson Deep Test

Skelly Oil Co.'s Wiltse 1, C E½ NW SE 10-1n-14e, Richardson County, after first showing for 50 bbls in Viola only to go to water, drilled 3 ft saturation in Wilcox just below 3200 ft. Higher in hole well had show in Simpson lime.

Brown and Calmpitt's Cornelius 1, also a Viola test in Dawson, SE NE 4-1n-14e, top Hunton 2176, is drilling 2550 ft.

Skelly's Roesch 6, Barada pool, has cemented for Hunton test.

COMPLETION

Richardson County: Barada—Skelly Oil Co.'s Schawang 1, cw½ sw ne 36-3n-16e, Hunton 2435 ft, td 2520 ft, 1000 gals acid, pump 344 bbls.

WILDCAT STARTS

Gage County—Richco Oil's Dowell 1, old well deepened, sw sw ne 31-2n-15e, dr.

Richardson County—E. T. Weeke et al's Cornelius 1, ce½ se ne 4-1n-14e, dr.

New Mexico

Eddy County Confirmation Test Makes Small Pumper

Confirmation test for Eddy County shallow pool makes commercial pumper. Lea County wildcat dry in Upper San Andres. West Eunice field partially defined on southwest edge.

Eddy County: Neil Wills et al's Wills 2, C SW SW 13-20s-28e, ¼-mile south of discovery, pumped 12 bbls daily from sand 785-991 ft, bottomed at 810 ft, and cleaning out after 30-quart nitro shot 780-810 ft.

Lea County: Mascho Oil Co. and American Drilling Corp.'s State 1, wildcat 7 miles northwest Tatum, drilling dry lime 4550 ft, having entered San Andres 4204 ft, elevation 4135 ft. Continental's State 1-J-24, southwest edge West Eunice field, aband in sulphur water 3927 ft.

COMPLETIONS

Eddy County—W. F. Dodson et al's Danciger 1-G, c ne nw 26-17s-30e, flow 210 bbls ¾-in, shot 60 qts 3150-75 and 120 qts 3225-75 ft, td 3283 ft.

Me-Tex Supply Co.'s State 3-x, nw ne nw 16-18s-31e, flow 108 bbls 2-in, shot 110 qts 3204-25 ft, td 3240 ft.

Sanders Bros. et al's Leonard 3-E, c nw se 33-16s-30e, flow 307 bbls 2-in, shot 190 qts 2858-2942 ft, td 2950 ft.

Lea County: Arrowhead—Gulf's State-Ramsey 11, c ne ne 35-21s-36e, flow 888 bbls natural 2-in, 3805-35 ft.

Lea County: Maljamar—Maljamar O&G Co.'s Baish 8-B, c nw sw 22-17s-32e, flow 135 bbls ¼-in, shot 60 qts 4073-95 ft, td 4102 ft.

West Texas

Barnhart and Fullerton Production Extended

Fourth consecutive extension to Barnhart pool assured by south outpost logging 50-ft pay zone. Fullerton deep area spread west, and prolific well from Crinoidal on Todd structure. Midland County's first Clear Fork test fails to make commercial producer and to explore the entire section.

Reagan County: Amerada's University 1-R-E, C NW SE Sec 9, 1⅛ miles southeast of production, logged porosity and oil saturation in Ellenburger dolomite 9143-9223 ft, and was to continue to 9300-ft level before casing for completion. Base of black shale was called at 9031 ft, elevation 2726 ft, being 27 ft low on this marker and 65 ft lower on top pay than its University 1-R-D. Company's University 2-R-C, mile west of discovery, flowed 254 bbls oil initial on ½-in choke, gas-oil ratio 1870/1, after 224-quart nitro shot 9012-9124 ft, then increased to 19 bbls per hour ½-in choke after using 1000 gallons acid, with a 750-gallon acid treatment to follow. This deepest producing area in basin involves a blanket pay condition in the Ellenburger as is the case at Big Lake, while production from the same zone at Sand Hills, Apco and Abell is erratic.

Big Lake Oil Co.'s University 20-C, 1692 ft northwest of its Clear Fork discovery on the northeast edge of Big Lake field, installing tubing with packer to make swabbing test after yielding 50 ft oil-cut mud on drill-stem test at 4225-4450 ft, with the well bottomed in shale. This second try for Clear Fork production is lower structurally.

Crockett County: Amerada et al's Todd 2-A, ¼-mile north of the Todd pool proper, flowed 386 bbls 41.3-gr oil natural through 1-in tubing choke on 6-hour gauge, gas-oil ratio 420/1. Production from Crinoidal perforations 5800-5904 ft. Top Crinoidal 5656 ft, elevation 2529 ft, being 84 ft low.

Andrews County: Magnolia's Ralph 1, ¾-mile west of Fullerton on pool discovery, flowed 141 bbls oil 11 hrs 1-in choke after acidizing with 4000 gallons in Clear Fork 7048-7306 ft, plugged back from water at 7403 ft. It will be re-acidized with 10,000 gallons. Fullerton Oil Co.'s Wilson 2, west offset to

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its discovery, flowed 940 bbls 42-gr oil, gas-oil ratio 1108/1, through 1-in choke for completion, used 12,400 gallons acid in 3 stages 7060-7300 ft, and Wilson 3, north of discovery, has 5½-in on bottom at 7040 ft. Phillips' University-Andrews 1-A, second deep test for Embar prospect, was drilling dry lime 7730 ft to explore Ordovician before plugging back for completion as producer in Clear Fork at 6215-6450 ft.

Deep Prospects: Broderick-Calvert & Livermore's Bryant 1, Midland County, yielded small amount free oil with drilling fluid when tested at 5594-5600 ft in Clear Fork, topped at 5230 ft, elevation 2699 ft, and drilling black lime 5760 ft. In Ward County, Shell's Sealy-Smith 1 drilling on junk at 10,084 ft. Plymouth Oil Co.'s Alford 1, Upton County, drilling hard chert 10,365 ft.

COMPLETIONS

Andrews County: Fullerton—Fullerton Oil Co.'s Wilson 2, c se sw PSL 15, blk A-32, elev 3388 ft, flow 940 bbls 42-gr, 1-in, acid 12,400 gals Clear Fork 7060-7300 ft.

Andrews County: North Cowden—Atlantic Sun's Holt 7-C, c nw se T&P 7, blk 43, T-1-N, pump 701 bbls, plus 53 bbls water, shot 480 qts 4550-4708 ft.

Cochran County: Slaughter — Continental's Dean 2, nec 1600-ac lse, leag 58, Martin CSL, flow 384 bbls, 2-in, acid 10,000 gals 4917-75 ft.

Devonian's Duggan 16-A, c lab 2, leag 55, Oldham CSL, flow 938 bbls cas, acid 12,500 gals 4953-5018 ft.

Devonian's Duggan 19-A, sec lab 11, leag 55, Oldham CSL, flow 1378 bbls cas, acid 12,500 gals 5015-60 ft.

Devonian's Smith 1-B, nec lab 16, leag 56, Oldham CSL, flow 1117 bbls cas, acid 12,500 gals 5004-49 ft.

Superior's Dean 3, swc leag 57, Martin CSL, flow 432 bbls, ¾-in, acid 6000 gals perf 4922-45 and 4962-64 ft, td 4989 ft.

Crockett County: Clara Couch—Humble's Couch 1, c ne se HE&WT 37, blk GG, pump 53 bbls 25.7-gr, acid 4000 gals 2067-91 ft.

Crockett County: Hoover—Roger Harris et al's Hoover 3, se nw nw GC&SF 1, blk 1, abnd 1506 ft.

Crockett County: Todd—Amerada et al's Todd 2-A, c nw se GC&SF 25, blk WX, flow 1543 bbls, 1-in natural, Crinoidal perf 5800-40 and 5860-5904 ft, td 5986 ft.

Culberson County: Wildcat—S. P. Williams et al's Barfield 1, c n½ nw ne PSL 20, blk 82, black lime 1108 ft, abnd 1506 ft.

Ector County: Foster—Continental's Johnson 10-B, nw se nw T&P 5, blk 42, T-2-S, pump 292 bbls, shot 325 qts 4216-4300 ft.

Ector County: North Cowden — Stanolind-M. J. Delaney's Smith-T. P. Coal 5-B, T&P 7, blk 42, T-1-S, pump 264 bbls oil and 69 bbls water, shot 920 qts 4260-4579 ft, td 4604 ft.

Texas Co.'s Holt 18, c ne se T&P 10, blk 43, T-1-N, flow 523 bbls cas, shot 275 qts 4570-4690 ft, td 4850 ft.

Gaines County: Seminole—Magnolia & Atlantic's H&J 6-193, c se ne WT 193, blk G, flow 454 bbls ½-in, shot 147 qts 5143-5219 ft.

Gaines County: Wasson—Amon G. Carter & Continental's Willard 4-A, nwc sw PSL 39, blk AX, flow 640 bbls ¾-in, acid 13,000 gals 4832-5029 ft.

Hockley County: Slaughter — Magnolia's Mallet 18-E, nwc lab 12, leag 49, Scurry CSL, flow 1492 bbls cas, acid 10,500 gals 4975-5013 ft.

Cliff Mooers et al's Glimp 1, 440 ft out nec e 40 of w 80 of n 160 of s 320 ac PSL 8, blk X, flow 1976 bbls cas, acid 10,000 gals 5002-34 ft.

Texas Co.'s Slaughter 123, swc lab 74, leag 38, Zavalla CSL, flow 408 bbls plus 6% bs&w, cas, acid 10,000 gals 4990-5025 ft.

Texas Co.'s Slaughter 128, sec lab 84, leag 38, Zavalla CSL, flow 1399 bbls cas, acid 12,000 gals 4970-5037 ft.

Texas Co.'s Slaughter 129, nwc lab 84, leag 38, Zavalla CSL, flow 2131 bbls cas, acid 13,500 gals 4945-5026 ft.

Texas Co.'s Slaughter 130, nec lab 86, leag 38, Zavalla CSL, flow 1642 bbls cas, acid 12,000 gals 4975-5028 ft.

Texas Co.'s Slaughter 131, nec lab 85, leag 38, Zavalla CSL, flow 2462 bbls cas, acid 14,000 gals 4930-5014 ft.

Uscan Oil Co.'s Booher 4, 1738 ft from w and 440 ft from s lines lab 6, leag 42 Kaufman CSL, flow 226 bbls 1-in, acid 10,000 gals 4900-53 ft.

Western States Gasoline Corp.'s Frazier 18, nwc lse PSL 9, blk X, flow 1355 bbls cas, acid 10,000 gals 4954-5017 ft.

Western States' Mallet 8, nwc lab 10, leag 51, Scurry CSL, flow 1134 bbls cas, acid 10,500 gals 4992-5034 ft.

Western States' Mallet 12, nec lab 16, leag 49, Scurry CSL, flow 531 bbls, plus 5.7 percent bs&w, 2-in, acid 11,000 gals 4990-5020 ft.

Pecos County: Abell—Geo. T. Abell et al's Williams 1-B, 330 ft from ne and 990 ft from se lines H&TC 5, blk 3, flow 1181 bbls natural ½-in, Simpson sand 5285-5305 ft.

Stanolind's Polson-Abell 1, 2003 ft from ne and 2004 ft from se lines H&TC 5, blk 3, flow 1836 bbls natural ½-in, Simpson sand perf 5252-73 ft, td 5285 ft.

Stanolind & Anderson-Prichard's Steine 1, lot 5, H&GN 24, blk 9, 5,400,000 gas natural, Simpson sand perforations 5260-75 ft, td 5874 ft.

Pecos County: Wildcat — Magnolia's Loar-State 1, 330 ft out north corner H&TC 2, blk 3, elev 2393 ft, Simpson 4945 ft, Tulip Creek 5145 ft, Waddell 5854 ft, Ellenburger 6282 ft, abnd 6483 ft.

Scurry County: Sharon — R-Y Oil Co.'s Bishop 1, se sw ne H&TC 145, blk 97, abnd 3281 ft.

Terry County: Slaughter—Gulf's Mallet 14, ne ne se sec 5, blk D-11, J. H. Gibson sur, pump 81 bbls oil, plus 14% water, acid 10,000 gals, td 5069 ft.

Honolulu Oil Corp.'s DeVitt 2, 1540 ft from n and 440 ft from w lines sec 4, blk D-11, C&M sur, flow 1797 bbls 2½-in, acid 10,000 gals 4980-5051 ft.

Ward County: Gulf-O'Brien—Gulf's Hutchings 167, ne sw ne sec 4, blk F, flow 2040 bbls 2-in, shot 858 qts 2554-3070 ft.

Ward County: Estes—Gulf's Hutchings 169, sw nw sw sec 10, blk O, flow 442 bbls 2-in, shot 270 qts 2459-2538 ft.

Ward County: Spencer—Stanolind's Spencer 3-A, 2000 ft from nw and 1996 ft from sw lines H&TC 53, blk 34, flow 256 bbls oil, plus 11% water, natural ¼-in, lime 2931-35 ft.

WILDCAT STARTS

Crane County—Magnolia's K. Glenn 1-D, 660 ft from nw and ne lines H&TC 20, blk 1, lcn Ordovician test.

Crockett County—Geo. Atkins et al's Hoover 1, c nw sw HE&WT 1, blk GG, lcn.

WEST CENTRAL TEXAS

COMPLETIONS

Callahan County—C. D. Haggerty et al's Williams 1-61, 1770 ft from n and 450 ft from e lines sec 61, Bayland Orphan Lands, abnd 846 ft.

Eastland County—Hickok Prod. & Dev. Co.'s Wright-Harrell 5, J. B. Hoxie sur 75, 6,000,000 gas, 3328-40 ft.

Jones County: Wildcat—Lewis Prod. Co.'s Minter 1, 2100 ft from n and 660 ft from e lines lot 15, Robt. Smith sur 192, elev 1702 ft, abnd 2357 ft.

Palo Pinto County: Wildcat—W. K. Gordon et al's Conway 2, 270 ft from n and 1000 ft from e lines D. Mitchell sur A-1647, abnd 3437 ft.

Shackelford County—J. R. Craighead et al's Tucker 1, 2350 ft from sw and 450 ft from se lines TE&L 522, abnd 543 ft.

Hickok P&D Co.-Harry Reynolds' Nail 19-A, E. T. Ry sec 133, pump 81 bbls 37-gr, natural, lime 1525-31 ft.

R. H. Roark et al's Elliott 1-C, c nw se L. A. L. sec 9, elev 1431 ft, 5,200,000 gas, Canyon sand 2796-2821 ft.

Taylor County: Trent—Jennings & E. P. Griffin's Tipton 1, 330 ft out swc s 100 of e 200 of n 400 ac T&P 20, blk 18, elev 1846 ft, abnd 3065 ft.

WILDCAT STARTS

Callahan County—C. D. Haggerty et al's Williams 1-65, 870 ft from n and 450 ft from w lines sec 65, Bayland Orphan Lands, lcn.

Coleman County—Eastland Oil Co.'s O'Hair 1, 3975 ft from n and 3490 ft from e lines of Casper Simon sur 716, lcn.

J. C. Ellis et al's Ray 1, center south 42-ac of 168-ac tr, ne part Jas P. McLean sur 687, mi southwest Rock Crusher, elev 1945 ft, 4000-ft test, sp.

Shackelford County—O. E. Schkade and Ray Pool's Martin 1, c se ne BAL 40, lcn.

North Texas

Montague Promising One Or More Deep Discoveries

Deep prospecting in Montague County promises one or more discoveries. Prolific well completed 1¼ miles northwest of Clingingsmith pool, which also registers its first failure. Jack County discovery on final gauge.

Montague County: Sinclair Prairie's Sanders 1, 1¼ miles northwest of Clingingsmith 5-well pool, rated 3002 bbls 36.8-gr initial, based on 3-hour natural flow from Bend conglomerate 5962-72 ft. Company owns all intermediate acreage, and may qualify Sanders 1 as new pool since McCall 2, northwest edge Clingingsmith pool, proved dry in Bend at 6250 ft and will complete at 2030 ft for water disposal well.

Continental's Penn 1, east offset to Gant-Turner pool discovery in Bend, yielded 3350 ft oil and 150 ft oil-cut mud on 20-minute drill-stem test at 6697-6747 ft in Viola, topped 6692 ft. Penn 1 passed up small oil producer in conglomerate 6279-6330 ft in Bend, topped at 6104 ft, and logged oil saturation in Viola 6692-6740 ft followed by 7 ft dry lime. Five-inch liner will be set for completion. Continental's Yowell 1, mile north by west its Stoneburg pool discovery, drilling dry lime 7110 ft, having failed to make producer in Bend, topped 5985 ft.

Montague Wildcats: Sinclair Prairie's Collier 1 abandoned in Ellenburger 8000 ft, and Henderson 1 fishing drill pipe at 6935 ft, having tested salt water at 6423-36 ft. Company's Jones 1 plugged back

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from 8696 ft to 7320 ft preparatory to cementing 7-in 7176 ft to make swabbing test of Bend saturation. Continental's Mueller 1, 6 miles east of Bowie, yielded 330 ft oil-cut mud and 180 ft mud on drill-stem test at 7132-64 ft, in Simpson and anothed drill-stem test pending at 7223 ft, with the last 4 ft showing oil saturation. This wildcat passed up small oil producer in Viola, topped at 6600 ft.

Jack County: Taubert - McKee and Sinclair Prairie's Boyd 1, discovery for the Post Oak prospect, flowed 367 bbls oil through ½-in choke on 11-hour test, casing pressure dropping from 1200 to 820 pounds and tubing pressure from 700 to 140 pounds. Production is from Ellenburger 6389-6435 ft. This test was made with rock bit on tubing, 6 ft off bottom. Tubing will be raised in order to have the benefit of gas produced above oil zone before making official test. Qualifying as a discovery, the base allowable will be 240 bbls daily. Partnership plans additional tests on their lease block. Their Mary Hoefle 1-A, first Bend failure in the Hoefle pool, was drilling shale 5840 ft.

COMPLETIONS

Archer County: Discovery Wildcat—W. E. Production Co.'s J. F. Ebnother-Shell 1, 330 ft from e and 1200 ft from n lines sec 102, Harris subdiv, 5 mi nw Archer City, pump 95 bbls, sand 1277-80 ft.

Clay County—J. S. Caraway et al's George 1, sec 4, W. Wyatt sur, abnd 1120 ft.

Clay County: Wildcat—F. H. Gohlke et al's Byers 2, 990 ft out sec blk 30, Byers subdiv, abnd 1889 ft.

Montague County: Clingingsmith — Sinclair Prairie's Sanders 1, 660 ft out swc sec 114, J. C. Mattison sur, 1¼ mi nw production, flow 3002 bbls 36.8-gr, 2-in, Bend conglomerate 5962-72 ft.

Montague County: Wildcat—Sinclair Prairie's Collier 1, 740 ft from sw and 500 ft from se lines J. Collier sur A-1212, 1st hard lime 6078 ft, sand 6335 ft, 2nd lime 6655 ft, Viola 7415 ft, abnd 8000 ft.

Throckmorton County: Wildcats — Walter Neustadt et al's Morrison 1, TE&L 1614 ft, top Palo Pinto 2540 ft, Bend 4178 ft, abnd 4257 ft.

W. Neustadt and Danciger's Brown 1, c e½ se TE&L 1617, Bend 4166 ft, abnd 4194 ft.

Wichita County: Wildcat—C. F. Schram et al's Laukhuf 1-A, 300 ft from w and 700 ft from s lines 40-ac lse, J. R. McDowell sur A-194, abnd 601 ft.

Wichita County: K-M-A Ellenburger—Tide Water Associated's Ferguson 6-E, 660 ft from n and 400 ft from e lines lot 4, W. H. Spillers sur, flow 968 bbls, ¾-in, acid 3000 gals 4236-4312 ft.

Willbarger County: Rock Crossing Ellenburger—Phillips' Waggoner Est. 217, se se sw H&TC 46, blk 4, flow 928 bbls, ⅜-in, acid 1000 gals, Ellenburger 3789½-99 ft.

Young County: Discovery Wildcat—W. R. Worthington et al's Killian 1, 750 ft from n and 550 ft from e lines TE&L 211, 2¾ mi s Olney, pump 10 bbls, shot 22 qts 940-48 ft, td 949 ft.

Young County—N. Gray et al's Porter 2, W. Cantwell sur A-1393, abnd 642 ft.

OLD WELL DEEPENED

Clay County — Texas Co.'s Dallas Stock Bank 1, J. Duncan sur, otd 1453 ft, abnd 1670 ft.

TEXAS PANHANDLE

COMPLETIONS

Hutchinson County—Continental's Sanford 2-D, H&TC 77, blk 46, pump 249 bbls, lime 2821-39 ft.

Gulf's Whittenburg 12, GC&SF 89, blk Z, pump 178 bbls shot 2945-3110 ft.

Gulf & Panhandle's Dial 111, H&GN 1, blk 1, pump 211 bbls, shot 180 qts 2865-2925 ft, td 3045 ft.

Shell's Harvey Sisters 43-B, HE&WT 71, blk Z, pump 300 bbls, shot 160 qts 3016-76 ft.

Sinclair Prairie's Harrison 1, sec w½ of e½ AB&M 14, blk M-16, pump 248 bbls, shot 65 qts 3168-96 ft, td 3200 ft.

Harry Stekoll et al's Whittenburg (north) 2-C, TCRy 37, blk M-23, pump 421 bbls, 3040-3105 ft.

Moore County—Shamrock O&G Co.'s McKee 2, H&TC 399, blk 44, 24.2 million gas 2805-3100 ft and 91 bbls oil 3345-46 ft.

Potter County—United States Bureau of Mines' Bivens 5-A, nwc se sw BS&F 26, blk 6, 16,200,000 ft gas natural, 702 lbs rock pressure, 3165-3445 ft.

WILDCAT STARTS

Sherman County—Hagy-Harrington-Marsh's L. M. Price 1, c of GH&H 44, blk 3-B, lcn gas test.

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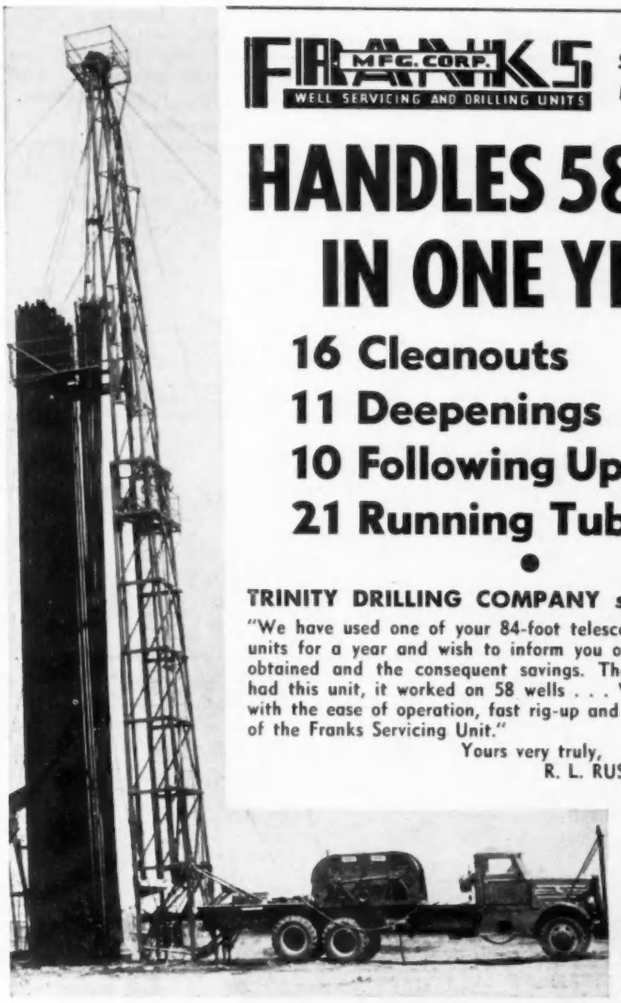

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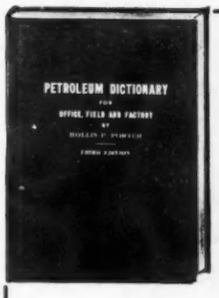

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Texas Gulf Coast

Deep Test Projected On Active Wilcox Trend

Wilcox trend continues active with wildcat projected in East Lake Creek area, Montgomery County; Atlantic enters Mercy field; production tests reported underway in Austin County deep wildcat.

Wilcox Trend: Superior has staked Eola Frost et al 1 in the East Lake Creek area, Montgomery County, 2½ miles northeast of nearest Lake Creek production. Operators plan to carry the well deep into Wilcox testing horizons that produce at Lake Creek proper. Location is in Archibald Hodge survey, A-18. It also is 2½ miles north and slightly west of McMahan 1 now drilling below 10,400 ft on Deering prospect.

Superior has conducted considerable reflection seismograph work in area, and presently is working west of West Conroe field centering around Mary Corner survey. Pan American is working northeast of Montgomery townsite, western part of Montgomery County. Ohio Oil Co. is working northeast part of county with seismograph, centering in J. M. de la Garza survey.

Atlantic Refining Co. has located Palmer 1, half-mile northeast outpost to Mercy field. Shell has completed two wells in recently discovered Wilcox field and is preparing to drill a third. Atlantic is the second operator to enter the area.

Austin County: Shell is making production tests in Hintz 1, deep Wilcox wildcat in Sealy area. Bottomed at 11,500 ft with liner set on bottom, operators are scheduled to perforate for a series of tests in the lower horizons.

COMPLETIONS

Brazoria County: Danbury—Rowan Drilling Co.'s Jamison 17, 1187 ft fr ne l & 330 ft fr nw l 1296-ac tr Henry Austin sur 6, abnd 5002 ft.

Chambers County: Fig Ridge—Edwin B. Cox & Jake L. Hamon's McCarthy 1, 1049 ft fr s & 330 ft fr e l sec 93, 80-ac tr, sand 8546 ft, perf, flow 125 bbls 7/64-in, tp 1300, cp 1300, gor 718/1, 35.2 gr, td 8595 ft.

Sun's Pipkin 2-A, 500 ft fr w l & 1787 ft fr n l sec 96, perf 8500-60 ft, flow 685 bbls ¼-in, tp 1250, cp 1325, td 8570 ft.

Jefferson County: Stowell—Glenn H. McCarthy and Brown & Wheeler's Crawford 2, 660 ft fr n & 1950 ft fr e l s½ sec 158, flow 85 bbls 7/32-in, tp 2050, cp 2300, gor 22,890/1, 40.9 gr, td 8551 ft.

Sinclair-Prairie's Smith 1-A, 660 ft fr s & e l's nw¼ sec 158, abnd 10,222 ft.

Wharton County: Withers—F. W. Michaux' Pierce Est. 20-A, 2253 ft nw fr se l Thomas Westall sur, flow 154 bbls 10/64-in, tp 550, cp 475, 25.9 gr, td 5395 ft.

F. W. Michaux' Pierce Est. 50-A, 2253 ft fr se l Thomas Westall sur, flow 148 bbls 10/64-in, tp 500, cp 475, gor 264/1, 25.9 gr, td 5360 ft.

WILDCAT STARTS

Harris County—British American's Street 1, Pearland area, 330 ft fr ne & nw l's 40-ac unit, D. H. M. Hunter sur 76, lcn 6500-ft test.

Pure's Siadous 1, Alief area, 4651 ft fr s & 524 ft fr e & w l's of lse, Henry K. Lewis sur, lcn 9000-ft test.

East Texas

Verdicts Due Soon On Deep Wildcats

Two failures near Rusk County shallow oil discovery. Verdicts due shortly on several of numerous deep wildcats in district, and two projected smackover lime tests progressed to Georgetown.

Trinity Explorations: Humble's Curtiss 1, Larissa area, Cherokee County, drilling 6190 ft in Georgetown, topped 6055 ft, elevation 490 ft. In Henderson County, the Texas Co.'s Brown 1 is drilling shaley-sand at 7230 ft, having topped Georgetown 5523 ft. Amerada's Kennemer 1, projected 8000-ft test for Wood County, drilling 1000 ft.

Smackover Lime: The Texas Co.'s Keeling 1, Limestone County, drilling sandy-shale 4740 ft. In Hunt County, American-Liberty Oil Co.'s McNatt 1 drilling hard lime 3260 ft, having entered Georgetown at 2717 ft, elevation 573 ft.

L. O. McMillan et al's Heath 1, New Salem shallow pool, failed to encounter saturation in Nacatoch sand, and is awaiting drill-stem test in shale at 2925 ft. H. H. Groneman et al's Dublin 1 making swabibng test at 3010 ft, 5½-in 2857 ft, although no shows reported in Nacatoch section.

COMPLETIONS

Anderson County: Discovery Wildcat—Magnolia's Campbell 1, 660 ft out swc 90.31-ac tr, Jess B. McNealy league, Concord structure, elev 600 ft, Pecan 3559-89 ft, Austin 4319-60 ft, Woodbine sand 4522-40 ft, td 4669 ft, pump 201 bbls 16.9-gr pipe line oil.

Hopkins County: Wildcat—W. B. Hinton-Talco Asphalt & Ref. Co.'s Crisp-Humble 1, 1320 ft from s and 660 ft from w lines 43⅛-ac tr, Ulysses Acquier sur, elev 501 ft, Pecan 1460-1570 ft, Austin 3005-50 ft, Sub-Clarksville 3145-3220 ft, Georgetown 3981 ft, Goodland lime 4696-4707 ft, Paluxy 4742 ft, abnd 4820 ft.

Rusk County: Pleasant Grove—L. O. McMillan et al's Pool 3-A, 467 ft sw of ne of 140-ac tr, 800 ft se Pool 2-A, Geo. May sur, flow 139 bbls oil, plus 80% salt water, 2½-in, Woodbine perf 4074-75½ ft, td 4140 ft.

Smith County: Chapel Hill—Shell's Longley 1, 680 ft n and 1100 ft w sec 142.38-ac tr, J. Wolf sur, elev 445 ft, flow 25 bbls 53-gr distillate and 872,000 gas, ½-in, acid upper Pettit perf 8058-87 ft, td 8285 ft.

Wood County: Hawkins—Humble's L. A.

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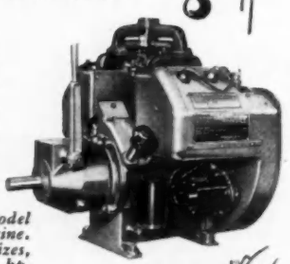

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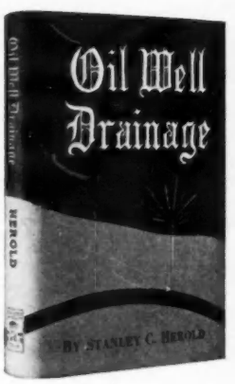

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Bryan 2-C, 1398 ft from e and 527 ft n of m/n/s line tr, M. A. Esparcia sur, flow 400 bbls, ¼-in, Woodbine perf 4766-72 ft, td 4868 ft.

Humble's Kay 5, 467 ft from e and 467 ft ne of m/e/s line 330-ac tr, J. P. Moseley sur, flow 465 bbls, ¼-in, Woodbine perf 4696-4706 ft, td 4828 ft.

Humble's Wyatt 3, 1400 ft from s and 467 ft from w l of 147.18-ac tr, Wm. Herrington sur, flow 368 bbls ¼-in, perf 4872-33 ft, td 4896 ft.

Cass County: Kildare—C. C. Gilger's Grogan 1, John Watson sur, junked 5770 ft.

Harrison County: Wildcat—Iowa Payne Oil Co.'s Newton 1, John V. Morton sur, 3 mi nw Harleton, elev 442 ft, Pecan Gap 2430, Austin chalk 3764, Woodbine 3794, Georgetown lime 3808 ft, abnd 3814 ft.

Panola County: Carthage—Glassell & Glassell's Frost 2, T. C. Carruth sur, perf used acid, 5628-48 ft, 5826-5942 ft, 34 gas, 6605 ft.

Shelby County: Joaquin-Logansport—Grady Vaughn's Reed 1, Brantley sur, top porosity Glen Rose 4796 ft, open flow, 130 gas, 4951 ft.

WILDCAT START

Navarro County—Falcon Co.'s Kiett 1, 660 ft out nwc 100-ac tr and blk 66, S. Benton sur, 10 mi w Currie, lcn 6000-ft Smackover lime test.

Southwest Texas

Three Jackson County Areas in Limelight

Jackson County further established itself as the key exploratory spot in Southwest Texas as new producing areas were being opened.

Jackson County: W. S. Boyle et al's Strovhal 1, ½ mi sw Looney's Branch field, sand 5506 ft, perf 5509-16 ft, flow 150 bbls ⅛-in choke, still testing. Apparently new sand and ½-mi extension.

J. B. Coffee's Mauritz et al 1, sec 21, 2 mi w main Mauritz field, flow est 125 bbls 31.6-gr oil, ⅛-in choke, 500 lbs tubing, 900 lbs casing pressure, gas-oil ratio 700/1, perf 5470-80 ft. Either new field or major extension to Mauritz.

Gulfboard Oil Corp et al's J. H. Harmon 1, sec 23, se of Ganado field, perf 5361-75 ft, had flow clean oil but salt water broke in; squeezed to reperforate at same level. May be new pool.

Starr County: Sun's F. Montalvo 1-A, sh 9, between Sun and Kelsey fields, bottom 7119 ft, plugged back to 6100 ft, 5½-in to 6087 ft, testing sand topped 6090 ft; may merge areas.

COMPLETIONS

Duval County: Wildcat—Magnolia's DCRC 1, sec 287, 10⅛ mi nw Freer, abnd 4305 ft.

Guy I. Warren's Clara Driscoll 1, P. Blanquito gr, 4 mi nw Realitos, abnd 4210 ft.

Jim Hogg County: Holbein—Highland Oil Co.'s McLean 7-B, sec 2, abnd temporarily 2833 ft.

Starr County: Sun—Humble's Montalvo 10, Los Retachez gr, 123.8 bbls 45.6-gr, ⅛-in, 770 lbs tp, 925 lbs cp, gas/oil ratio 625/1, sand 4595 ft, td 4624 ft.

Starr County: Wildcat—T. E. Stephens' Ramirez 1, sh 137, por 68, 14 mi nw Roma, abnd 2046 ft.

WILDCAT START

Starr County—Syndicate O. Corp.'s Y. Sanchez 1, 1540 ft n, 660 ft w lines lot 3, blk A, por 75, 20 mi n Rio Grande City, lcn 4000-ft test.

SOUTH CENTRAL TEXAS

COMPLETIONS

Bastrop County: Wildcat—S. A. Thompson's N. E. Petty 1, S. Lentz sur, 3 mi s Red Rock, abnd 3600 ft, Edwards lime.

LaSalle County: Wildcat—Humble's J. E. Bishop 1, ACH & B 11, 6 mi nw Cotulla, abnd 8784 ft, Edwards lime.

Medina County: Chicon Lake—C. H. Wagner's Medina Farms 3-C, tr 4-A, blk 3, 1 bbl 19-gr, pump, sand 520-21 ft, td 521 ft.

Val Verde County: Wildcat—Parsons, Cleveland & Cook's I. F. Ingram 1, sec 42, 43 mi nw Comstock, abnd 1765 ft.

WILDCAT STARTS

Fayette County—Continental's F. Gabitzsch 1, 660 ft ne and se lines of 173-ac lse, J. Whitesides sur, 1 mi nw Cistern, lcn 4200-ft test.

LaSalle County—Royal O&G Co.'s Cartwright 1, 729 ft e, 660 ft s lines lot 13, blk b, Greer sub, H&GN 238, 10 mi n Ft. Ewell, lcn 6000 ft test.

Williamson County—Herman Plath's Boortz & Freels 1, 1233 ft ne, 1692 ft nw lines 245-ac unit block, 5 mi se Thrall, lcn 1200-ft test.

LOWER GULF COAST

COMPLETIONS

Bee County: Wildcat, S. Plummer Pros.—Celtic Oil Co.'s Beck 1, Johnson sur, abnd 7510 ft, Wilcox.

Jackson County: Francitas—Skelly's Scoville-Broughton 1, lots 8-14, blk 6, 75 bbls 37.5-gr, 7/64-in, 2100 lbs tp, 2875 lbs cp, 8.4% sw, gas/oil ratio 5414/1, perf 7955-64 ft, sand 7946 ft, 6⅝-in 10,655 ft, td 10,665 ft.

Jackson County: N. LaWard—Magnolia's Gordin 15, lot 12, 35.16 bbls 28-gr, 9/64-in top, 5/64-in bottom, 700 lbs tp, 2150 lbs cp, gas/oil ratio 10,238/1, perf 5726-28 ft, sand 5627 ft, elev 57 ft, 5½-in cas 5675 ft, td 7735 ft, new sand in Frio.

Phillips' J. Johnson 4, blk 151, 97.2 bbls 27.1-gr, 7/64-in, 220 lbs tp, 600 lbs cp, gas/oil ratio 161/1, perf 5213-23 ft, sand 5213 ft, td 5270 ft.

Jackson County: West Ranch—Magnolia's N. B. West 226-A, R. Musquez gr, 164.5 bbls 31.1 gr, 7/64-in, 780 lbs tp, 1060 lbs cp, gas/oil ratio 450/1, perf 5765-70 ft, sand 5765 ft, td 5770 ft.

Jim Wells County: Orange Grove—Kilgore Dev., Inc.'s H. Koehn 2, tr 2, sw outpost, orig abnd 5111 ft, reworked, sd/tr to 5101 ft, 113 bbls 32-gr, 7/64-in, 650 lbs tp, 700 lbs cp, gas/oil ratio 344/1, sand 5088 ft, td 5111 ft.

Jim Wells County: Seeligson—Shell's L. Seeligson 4, W. Millican sur, 145.19 bbls 41-gr o 7/64-in ch, 1200 lbs tp, 1175 lbs cp, gas/oil ratio 750/1, sd 5922 ft, 5½-in cas 5941 ft, td 5998 ft.

Shell's Seeligson 5, W. Millican sur, 146.55 bbls 41-gr, 7/64-in, 1150 lbs tp, 1175 lbs cp, gas/oil ratio 795/1, sand 5983 ft, 5½-in 5941 ft, td 6010 ft.

Jim Wells County: Stratton—Humble's King-Arroyo 2, Paso Ancho de Arriba gr, 4667 ft w outpost, 127.5 bbls 47.3-gr, 3/16-in, 1825 lbs tp, cas sealed, gas/oil ratio est 25,750/1, perf 6758-70 ft, td 7281 ft.

Nueces County: Agua Dulce—Renwar Oil Corp.'s J. B. Knight 3, sec 184, 229 bbls 42-gr, ⅛-in, 1075 lbs tp, 1275 lbs cp, gas/oil ratio 800/1, perf 7072-80 ft, td 7215 ft.

Nueces County: Bentonville-King—Southern Minerals' Richard King 26, sec 6, 75.82 bbls 39.1-gr, 7/64-in, 550 lbs tp, 950 lbs cp, gas/oil

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ratio 1423/1, perf 5375-85 ft, sand 5373 ft, td 5671 ft.

San Patricio County: Odem—Seaboard's J. C. Burrows 1, blk 6, 133 bbls 38.8-gr, ¼-in, 625 lbs tp, 925 lbs cp, gas/oil ratio 563/1, perf 5421-29 ft, sand 5414 ft, td 5433 ft.

Seaboard's H. A. Smith 1, Hard & Sons gr, 114 bbls 32.2-gr, o ¼-in, 850 lbs tp, 2100 lbs cp, gas/oil ratio 625/1, perf 5322-24 ft, top sand 5300 ft, td 5452 ft.

Victoria County: Wildcat—Rowan & Hope's M. Shear 1, V. Garcia 3 Lge gr, 3½ mi se Inez, abnd 5510 ft.

Willacy County: Wildcat—Sunray Oil Co.'s Kerlin 1, lot 8, blk 3, Hubmer sub, sec 631, Carricitos gr, ⅛ mi w Willamar townsite, abnd 8307 ft.

WILDCAT STARTS

Aransas County—Southern Minerals Corp.'s Mortgage Lnd & Inv Co. 1, 660 ft s and e lines sec 49, 6th sub Taft Farms, 6 mi ne Aransas Pass, ru 7500-ft test.

Bee County—Magnolia's E. H. Buckner 1, 776 ft nl, 3356 ft el 2311-ac lse, T. Simmons sur, 1½ mi w Berclair, lcn 5400-ft test.

San Patricia County—Humble's F. Scull 1, 660 ft n and e lines blk 8, B. M. & H. sub, Villareal & Garza gr, 7 mi w Edroy, lcn 6500-ft test.

Louisiana Gulf Coast

Pointe au Fer Gas Area Extended Northeast

Pointe au Fer gas area extended northeast; testing deep sand on north flank West Gueydan; deep wildcat projected on flank Napoleonville dome.

Terrebonne Parish: Texas Co. has extended gas production in the Pointe au Fer area 1½ miles north and slightly east with State 1, opening a new horizon perforated 5608-30 ft, flowing 1,000,000 dry gas through 12/64-in choke, tubing 2225 pounds. Hole was drilled to 9264 ft. The company has started State 1-B, 5750 ft northwest of the gasser. This makes five tests for the area and the second gasser, Barnsdall's Nelson Development 3 flowing gas from perforations at 6750-55 ft in Miocene. Three previous wells were dry.

Vermilion Parish: Pure is testing a new deep sand on the north flank West Gueydan dome at 10,792-797½ ft. Located in 41-12s-2w, well is bottomed at 11,000 ft in shale. First perforations were made at 10,802-806 ft with retainer being set.

Erath: Humble's Vermilion Parish School Board 2, 16-13s-4e, north outpost, perforated 11,107-109 ft and is testing. Hole is bottomed at 11,352 ft. Phillips is fishing for stuck tubing in Broussard 1, south outpost, 28-13s-4e. First test in perforations at 11,180-192 ft showed gas, distillate and salt water. Total depth 11,752 ft, plugged back to 11,237 ft.

Assumption Parish: George H. Echols and J. Ray McDermott have staked Dugas LeBlanc 1, wildcat 2 miles south of same operators previous deep dry holes on Armelise Planting Company acreage. Considerable oil shows were found in Armelise Planting 2, but did not yield oil on several tests. The dome had another previous deep dry hole, Falcon-Seaboard's Simoneaux 1 halting in salt. New location is on east flank, C NW NW¼ 55-12s-13e.

St. Mary Parish: Humble has completed Canal Bank & Trust 3 to give Bayou Sale its 13th deep producer. Field has had a fairly rapid development, especially in view of the deep horizons. Canal Bank 3 was perforated at 10,117-125 ft, and flowed 7 barrels hr through ⅛-in choke. Operators have staked two new locations, Wooster 5 in 16-16s-9e, and Canal Bank 4 in 17-16s-9e.

COMPLETIONS

Calcasieu Parish: Sulphur—Union Sulphur's Fee 879, 808 ft s, 1048 e c 29-9s-10w, perf 6234-78 ft, flow 173 bbls 9/64-in, tp 950, cp 1850, 149,000 gas, td 6288 ft.

Cameron Parish: Black Bayou—Shell's Watkins 50, 1355 ft s, 405 e nwc 7-12s-12w, perf 7690-7755 ft, flow 324 bbls 39.6-gr, 11/64-in, tp 825, cp 1100, gor 375/1, 121,000 gas, td 7785 ft.

LaFourche Parish: Valentine—Shell's Edna Plantation 1, 4000 ft s 21 deg 29 mins w alg wl sec 65 fr nw cor thence 150 ft s 68 deg 31 min e at ra in 65-17s-20e, abnd 9814 ft.

St. Charles Parish: Paradis—Humble's Manufacturers Record 1, 1980 ft w alg nl sec 18 fr ne cor thence 660 ft s at ra in 18-14s-20e, perf 10,190-200 ft, flow 518 bbls 35.7-gr, 3/16-in, tp 1725, gor 625/1, td 10,235.

Terrebonne Parish: Lake Pelto—Texas Co.'s State-Lake Pelto 38, 3241 ft s, 4627 e nwc sec 20 in 29-23s-18e, perf 11,410-420 ft, flow 324 bbls 5/32-in, tp 2150, gor 570/1, opens new sand on se flank, td 11,478 ft.

Vermilion Parish: East Whitelake—Union's Vermilion Parish School Board 3-A, sec 16-15s-1e, first dual completion in field, perf 6415-20 ft, flow 243 bbls 5/32-in, tp 1000; perf 5964-82 ft, flow 219 bbls 5/32-in, cp 800, gor 460/1, opens new sand in 5900-ft horizon, td 6440 ft.

WILDCAT START

Orleans Parish—W. T. Burton's L&N 1-A, s 59 deg 05 min e 18,660 ft fr USBM (McComb) at cor of Fort McComb in 1-12s-14e, moving in materials.

North Louisiana

Project Smackover Lime Test at Bellevue

Smackover lime test to be drilled at Bellevue, Bossier Parish; nine new locations at Haynesville; wildcatting gains despite bad weather.

Bellevue: Phillips Petroleum Co. staked location for Premier 1, C NE SW 22-19n-11w, on southwest flank truncated Bellevue dome, Bossier Parish, for Smackover-lime test to go to 8,500 to 10,000 ft. Phillips acquired deep rights to holdings of Premier Investment Co. Bellevue produces oil from shallow Nacatoch 300 to 400 ft and oil and gas in Glen Rose at 2200 ft.

Haynesville: Nine locations, two completions in Pettit lime at Haynesville. However, test in SW SW 21-23n-8w, missed Pettit and drilling to Travis Peak, apparently making limits of Pettit production in that direction.

Wildcats: Despite bad weather that overflowed streams and hampered field operations, North Louisiana wildcatting gave indications of gaining last week. Southeast of Colfax, Grant Parish, California Co. leased 5000 acres around irregular Section 37-6n-2w, in Olla trend. Farther east, Lide & Greer of Dallas took 8000 acres in townships 11 and 12 north, range 12 east. New wildcat location staked in Caddo Parish.

COMPLETIONS

Bossier Parish: Bellevue—Oscar Donley et al's Howell 1, nw nw 4-18n-11w, abnd 1147 ft.

Bossier Parish: Sligo—Triangle Drlg. Co., Kerr A-5, sw ne 24-17n-12w, pump 40 bbls, 3162 ft.

Catahoula Parish: Wildcat—H. L. Hunt's Tensas-Delta C-1, sw se 33-5n-5e, elev 53 ft, Wilcox 4060 ft, abnd 6640 ft.

Claiborne Parish: Haynesville — Mid-States Oil Corp.'s Reeder 1, ne nw 26-23n-8w, used acid, flow 30 bbls hourly, ¼-in, 5472 ft.

Ohio's Bond-Benne 1, nw se 22-23n-8w, 175 bbls in 6 hours, ¼-in, after acidizing, td 5335 ft.

LaSalle Parish: Wildcat — Atlantic's Catahoula Lake 1, Wilcox 2846 ft, abnd 5499 ft.

LaSalle Parish: Little Creek—Ark. Fuel Oil Co.'s Taylor 1, ne ne 25-9n-1e, 125 bbls, 2680 ft.

Ark. Fuel Oil Co.'s Taylor 3, se ne 25-9n-1e, 168 bbls, 2% sw, 2515 ft.

O'Meara Bros.' A. T. Dean 1, nw sw 24-9n-1e, 12 bbls & 1¼ gas, 2700 ft.

LaSalle Parish: Nebo—H. L. Hunt's Goodpine F-89, nw sw 21-7n-3e, abnd 4930 ft.

T. L. James & Co.'s Swayze 1, nw se 22-7n-3e, 192 bbls, 3670 ft.

W. O. Woodward's C. R. Coon 4, ne nw 11-7n-3e, 80 bbls, 4063 ft.

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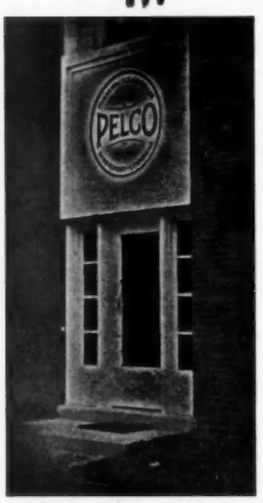

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Richland Parish: Wildcat—Bobby Manziel's Wooten 1, nw nw 28-17n-6e, abnd 4004 ft.

WILDCAT STARTS

Bossier Parish—Phillips' Premier 1, c ne sw 22-19n-11w, materials. Smackover lime test.

Caddo Parish—Cioban Oil Co.'s Horne 1, se se 16-16n-15w, materials.

Arkansas

High Water Closes Down Midway Operations

Arkansas' deepest test abandoned at 10,477 ft; Midway inactive due to high water; wildcat activity gains.

Lafayette County: McAlester Fuel Co.'s Jeffus 1, NE NE 4-19-24, Lafayette County wildcat, that set depth record for Arkansas, abandoned at 10,477 ft in Smackover lime, topped at 10,370 ft, after coring sulphur water in that horizon.

Midway: All of the seven active operations in Midway field, Lafayette County, shut down last week due to high water. Both operations in Dorcheat field, Columbia County, likewise shut down.

Wildcats: Atlantic Refining Co. staked tentative location in C SE NE 34-12-23, Nevada County, for wildcat to start immediately. M. E. Wakefield's Saunders-Rouse Unit 1, C SE NW 4-13-22, recently spudded, shut down moving in heavier rig.

H. L. Hunt is negotiating for year's geophysical option on 115,000 acres of lumber company holdings in Cleveland County. J. G. Strahan has taken 3000 acres around Section 36-11s-31w, Little River County, for proposed Glen Rose test.

COMPLETIONS

Lafayette County: Wildcat—McAlester Fuel Co.'s Jeffus 1, c ne ne 4-19-24, Buckner 10,232 ft, Smackover lime 10,370, porosity 10,435 ft, cored sulphur water, abnd 10,477 ft.

Ouachita County: McDonald — Ownby-Turner-Keith et al's Wilson 1, sw se 26-15-18, abnd 3502 ft.

Mississippi

Chickasaw County Wildcat Testing in Fort Payne

Chickasaw County wildcat testing; second location for Lamar County salt dome; Magnolia stakes Warren County wildcat.

Chickasaw County: Carter Oil Co. is preparing to test T. G. Abernathy 1, SW SW 29-12s-5e, Chickasaw County wildcat, that showed oil in three horizons recently. Total depth 3494 ft; elevation 350 ft; 5½-in casing 3105 ft after plugging back to 3198 ft. Testing in Fort Payne, topped at 3106 ft; other tops: Eutaw, 446; Tuscaloosa, 703; Pennsylvania, 1086; Mississippian, 1643; Bangor, 1748; Hartselle, 2059; Golconda, 2274; Cypress, 2408; Gasper, 2676; Bethel, 2898, Tuscumbia, 2946.

Lamar County: W. S. F. Tatum rigging for second test, Fee 2, SW NW SE 12-2n-16w, Lamar County, to be deep test, on flank of Tatum salt dome. Location one mile east Freeport Sulphur Co.'s Tatum 1, a core test, that went through small overhang.

Warren County: Magnolia Petroleum Co. staked a test in SE SE 27-17n-4e, Warren County, near where a recent core hole blew out from Sparta making

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Y. A. PRICE, Manager

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COMPLETION

Pearl River County: Wildcat—Placid Oil Co.'s Batson 1, 660 ft n & w sec 15-4s-16w, abnd 6134 ft.

WILDCAT STARTS

Lamar County—W. S. F. Tatum's Fee 2, sw nw se 13-2n-16w, rig.

Warren County—Magnolia's Fee not given, 990 ft n and 330 ft w sec 27-17n-14e, lcn.

Eastern States

NEW YORK

COMPLETIONS

Allegany County—Bradley Prod. Corp., Nobles farm, Alma, 10 bbls, Richburg, 1266 ft.

N. V. V. Franchot, Murphy farm, Bolivar, 5 bbls, Richburg, td 1422 ft.

Lee Harder et al, McAllister farm, Scio, 6 bbls, Richburg, 1364 ft.

Porge Oil Co., McMullen farm, Alma, 10 bbls, Richburg, 1372 ft.

J. P. Herrick No. 1, David Howe farm, Bolivar, 10 bbls, Richburg, 1452 ft.

Marsh Oil Co., Fay farm, Bolivar, 8 bbls, Richburg, 1449 ft.

Harold Gowdy et al, Frederick farm, Alma, 7 bbls, Fords Brook, 1380 ft.

Carter, Bradley & Streeter, Coats farm, Wirt, 10 bbls, Richburg, 1336 ft.

Jacob Trenkle Est, Trenkle farm, Genesee, 9 bbls, Richburg, 1368 ft.

Messer Oil Co., Koehler farm, Clarksville, 7 bbls, Richburg, 1369 ft.

Otto Oil Co., Bartlett farm, Bolivar, 6 bbls, Richburg, 1267 ft.

Sloan & Zook Co., Green farm, Genesee, 7 bbls, Richburg, 1361 ft.

INTAKE WELLS

Allegany County—Bradley Prod. Corp., Bascom farm, Alma, Richburg, 1283 ft.

Bradley Prod. Corp., Nobles farm, Alma, Richburg, 1187 ft.

South Bolivar Oil Co., McKelvey farm, Bolivar, Richburg, 1078 ft.

Sawyer Prod. Corp Beers farm, Bolivar, Richburg, 1375 ft.

Messer Oil Corp., "M," Allen farm, Alma, Richburg, 1418 ft.

Otsquago Oil Corp., Pike farm, Alma, Richburg, 1430 ft.

Albert Oil Co., Coats farm, Scio, Richburg, 1275 ft.

L. H. Thornton et al, Fassett farm, Willing, Fords Brook, 1167 ft.

Cousins Oil Co., Roeske farm, Wellsville, Fulmer, 1374 ft.

OHIO

COMPLETIONS

Athens County—Bern O&G Co.'s Wogan 4, abnd, 1064 ft.

Cuyahoga County—Benedum-Trees' Holmes 1, 2.0 gas, 1870 ft.

Gallia County—Ohio Fuel's Swisher 1, 0.05 gas, 1621 ft.

Knox County—Ohio Fuel's Whitney 1, abnd 2940 ft.

Ohio Fuel's Hammond 1, 1.5 gas, 2884 ft.

Lawrence County—Pawnee's Ellis 1, 3.0 gas, 2835 ft.

Licking County—Ohio Fuel's Bovard 1, 0.5 gas, 2663 ft.

Allen Willey's Daniels 1, abnd, 2550 ft.

Medina County—R. C. Holmes et al's Hostettler 019, abnd, 610 ft.

Meigs County—Fleming et al's Heath 1, abnd, 810 ft.

Monroe County—Hines & Garner's Garner 3, 2 bbls, 1456 ft.

Morgan County—McCoy et al's Olney 7, ½ bbl, 395 ft.

Muskingum County—Industrial Gas Co.'s Mitchell 1, 0.6 gas, 4464 ft.

Industrial Gas Co.'s Begley 1, 495 bbls, 3406 ft.

Noble County—Fassett Oil Co.'s Hayes 10, abnd, 631 ft.

Perry County—Industrial Gas' Barick 1, abnd, 2720 ft.

Preston Oil Co.'s Shaw 2, 80 bbls, 3368 ft.

Summit County—Wiser Oil Co.'s Stauffer Estate, 0.23 gas and 20 bbls oil, 3565 ft.

Washington County—Anderson et al's Edgas 1, 0.04 gas, 2120 ft.

Wayne County—Ohio Fuel's Moser 1, 0.13 gas, 830 ft.

INPUT WELL

R. C. Holmes et al's Oberton W-3, 596 ft.

PENNSYLVANIA

COMPLETIONS

Butler County—R. J. & C. P. Steed, Steed 2, 0.5 gas.

Clarion County—Kimmel Oil & Gas Co.'s Carlys 2, abnd, 3000 ft.

Green County—Hart-Gray et al's Bargenstock 1, 0.6 gas, 1850 ft.

OLD WELLS DRILLED DEEPER

Greene County—Thomas Myers et al's Crumrine 1, 0.4 gas, 3058 ft.

WEST VIRGINIA

COMPLETIONS

Braxton County—Kenna McCulty et al's Gerwid 3, 0.3 gas, 2350 ft.

Calhoun County—Hope Natural Gas' Knotts 8595, 0.06 gas, 1829 ft.

Clay County—Pitts. & W. Va. Gas Co.'s Hall 7841, 0.02 gas, 2136 ft.

Gilmer County—Gilco O&G Co.'s Rymer 1, 2 bbls, 2527 ft.

Harrison County—Pitts. & W. Va. Gas Co.'s Newlon 4390, abnd, 4003 ft.

Jackson County—Columbia Carbon Co.'s Ashby 1, 10.31 gas, 5096 ft.

United Fuel Gas Co.'s Harrison 5076, 2.8 gas, 4969 ft.

Godfrey L. Cabot, Inc.'s Winters 1, 0.98 gas, 5079 ft.

Kanawha County—Columbian Carbon Co.'s Jones 7, 100 bbls, 1624 ft.

So. Penn. Nat. Gas Co.'s Jones 1, 0.54 gas, 5102 ft.

Godfrey L. Cabot, Inc.'s Haynes 1, abnd, 5433 ft.

Lincoln County—So. Penn. Nat. Gas Co.'s McCormick 2, 2 bbls, 2374 ft.

Putnam County—Midland Gas Co.'s Phelps 1, 0.24 gas, 2183 ft.

OLD WELLS DRILLED DEEPER

Lincoln County—David Gas Co.'s Britton 1, 0.53 gas, from 2232 to 3480 ft.

Jefferson Gas Co.'s Miller 1, 0.49 gas, from 2327 to 3678 ft.

Cambridge Gas Co.'s Cassender Hill 1, 0.73 gas, from 2306 to 3614 ft.

The Oil Weekly's TRADING POST

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■ Late Model "S" Cardwell Rig complete. Made 7 holes, same as new and equipped with 6,000 feet of 3½" full hole drill pipe which has made three holes. K. S. Richards, 840 West Vickery St., Fort Worth, Texas. Phone 3-5600.

■ FOR SALE: One Frost generator, 7½ K.W., 125 volt, completely rebuilt, excellent condition — only $300.00. Hutchison Engineering Works, 6609 Avenue U, Houston.

■ 3 Standard Rig Pumping Assemblies for sale, $1200.00 each, including rig irons, steel bull wheels, 25-30 HP gas engine, reverse clutch, and steel derricks. Also, 10,000 ft. of 3" water line pipe. A. W. Adkisson, 2018 W. T. Waggoner Building, Fort Worth, Texas.

■ Oil Pump and Heating Unit: for No. 6 or Bunker C oil; suitable for 12½ GPM.; 500 to 2500 HP. Power Plant Equipment Co., Inc., 39 Cortlandt St., New York.

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■ ABOUT 3,000 acres of oil leases open to drill for acreage, good possibilities. Philo Dempsey, Roosevelt, Oklahoma.

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Trading Post Section, THE OIL WEEKLY
P. O. Box 2608 Houston, Texas

Michigan

Missaukee County Test Attracts Five Offsets

Turner Petroleum Corp.'s Cavanagh 1, N½ SE NW 14-21n-7w, Missaukee County, flowed 451 bbls first 24 hours on test and 358 bbls second 24 hours before caving hole bridged and stopped production. Hole was loaded with brine and operations started to cleanout and set 3-3/16-in. Logged Dundee dolomite at 3940 ft and bottomed at 3945 ft for first probable commercial producer in

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Missaukee County. Pure surveyed two diagonal 40-acre offsets and Gulf surveyed three direct offsets.

Reed City: Ohio shut down Gingrich 1, 31-18n-10w, Osceola County, south end pool, at 4301 ft after drilling new black water horizon in upper Monroe. Test may be abandoned. First to penetrate to 4300 ft in field.

COMPLETIONS

Allegan County: Wildcat—Rex Oil & Gas Co.'s Hamlin 1, c nw se 4-1n-16w, Traverse 1153 ft, abnd 1186 ft.
Clare County: Wildcat—Leonard Dr Co.'s Mills 1, s½ ne ne 2-20n-6w, Dundee 3769 ft, abnd 3777 ft.
Clare County: Headquarters—Pure's Bonninghausen A-2, c e½ ne 10-20n-3w, Traverse 3300-53 ft, flow 1032 bbls, 3353 ft.
Gratiot County: Wildcat—Rex Oil & Gas Co.'s Grover 1, c nw sw 13-12n-4w, Dundee 3428 ft, abnd 3457 ft.
Osceola County: Reed City—Ohio's Hooger-hyde 1, s½ sw ne 20-18n-10w, Monroe lime 3526-63 ft, flow 800 bbls, 3563 ft.
Osceola County: Evart—Taggart Bros. Co.'s Arndt 5, c nw 26-18n-8w, Mich Stray 1460-72 ft, 2,700,000 gas, 1472 ft.
Van Buren County: Wildcat—Perry, Gould & Cross' Trust Co. 1, w½ nw nw 32-4s-14w, Traverse 941 ft, abnd 954 ft.

WILDCAT STARTS

Allegan County—H. C. William's Afman 1, se se ne 30-3n-11w, lcn.
Arenac County—W. L. McClanahan's Milligan 1, se se 3-19n-6e, lcn.
Newaygo County—Hubbel Oil Co.'s Britten 1, s½ se sw 23-16n-12w, rig.
Otsego County—Rinehart & Hickok's Au-Sable 2, c nw 22-30n-3w, lcn.

California

Fresno County Deep Test Is Abandoned

General's Community No. 8, in 21-17-19, Riverdale district, Fresno County, a wildcat, has been bottomed at 8267 ft in gray sand and shale and abandoned. Krevenhagen 7700 ft with base at approximately 8100 ft. Eocene interval also found wet.

Kern County: Superior is preparing to spud a third test in the Delano-Jasmine area in effort to pick up shallow pay. First and second tests to 1025 ft and 1680 ft respectively have been abandoned.

In same area Termo Co.'s Salca 1 in 1-25-27 has been abandoned after coring gray sand in Vedder from 1620 ft to bottom at 1828 ft.

COMPLETIONS

Fresno County: Shafter Area—Continental's Neuman 1, 1650 ft s, 330 e nwc 36-27-24, flow 104 bbls 39.1-gr, 1-in bean 10/980 lbs. "A-2" sand 12,525 ft, Vedder 12,785 ft, td 12 857 ft.
Kern County: Devils Den—R. D. Herzog's Marine 30, 570 ft s, 790 ft w nec 26-25-18, pump 5 bbls, sand 205 ft, td 249 ft.
Kern County: Mount Poso Area—Signal Oil & Gas Co.'s Glide 23-1, 1080 ft s, 231 e W¼ cor 23-27-28, pump 75 bbls 15-gr, Vedder 1485 ft, td 1532 ft.
Kern County: Midway-Sunset—Union's Bedrock 25-14, 331 ft s, 993 e W¼ cor 14-32-23, pump 39 bbls 18-gr, 334 ft perf 2640 ft, sand 2740 ft, td 3035 ft.
Kern County: Mount Poso—General's Heisen 19, 797 ft s, 3453 w E¼ cor 16-27-28, pump 94 bbls 15.4-gr, 39 ft perf 1899 ft, Vedder 1875 ft, td 1900 ft.
Los Angeles County: Aliso Canyon—Universal Consolidated Oil Co.'s Ward 1, 439 ft wly on s ppty line fr n-s c/l of sec 27-3-16, thence 303 ft nly at r/a, trace oil 7665 ft, deepened 9361 ft, cored 10 ft oil sand above 9070 ft, td 9631 ft, abnd, Pliocene 5250 ft.
Los Angeles County: Wilmington—Long Beach Oil Dev. Corp.'s No. 32, 170 ft nely on n line of seaside from e line 22nd, thence 300 ft sely, pump 120 bbls 15.6-gr, perf 2980-3220, 3495-3610, 3650-3690 ft, td 3695 ft.
Santa Barbara County: Santa Maria Valley—Capital Co., Gallsion Fee 5, 330 ft s, 225 e nw cor 26-10-34, pump 150 bbls 14.5-gr, 531 ft perf 5218 ft, td 5220 ft.

WILDCAT STARTS

Fresno County—Richfield's Schultz 1, 27-16-18, rig, Burrell area.
Kern County—Robert B. Moran's Beer 1, 19-26-19, lcn, Devils Den area.
San Luis Obispo County—Richfield's Blakey 1, 20-31-20, lcn, Carrizo Plains area.

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A symposium conducted by the Research Committee of The American Association of Petroleum Geologists, A. I. Levorsen, chairman. Papers read at the Twenty-sixth Annual Meeting of the Association, at Houston, Texas, April 1, 1941, and reprinted from the Association Bulletin, August, 1941.
•
Edited by A. I. LEVORSEN
•
The purpose of this symposium is to get an over-all picture of the undiscovered oil resources of North America, north of the Rio Grande. Ten geological organizations have participated, to the end that this survey has behind it the authority of many geologists representing state and national geological surveys, large and small oil companies, and consulting and independent geologists. A map and a section of geology, stratigraphy, and structure illustrate each province description.
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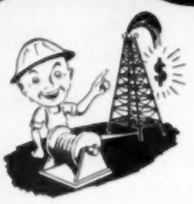

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Men in the Industry's News

J. A. NEATH has resigned as vice president of Humble Pipe Line Company to become a member of the board of directors of Humble Oil & Refining Company. The appointment was occasioned by the retirement of James Anderson, vice president and member of the board. At the same time, D. B. Harris, a member of the board of directors since early in 1941, was named treasurer of Humble Oil & Refining Company in addition to his other position as director in charge of industrial relations.

J. A. NEATH

D. B. HARRIS

Neath joined Humble Pipe Line Company in April, 1919, as district foreman at Ranger. He had been in pipe-line work with several other oil companies since he was 16 years old and came to Humble when Southern Pipe Line Company became a part of the system in 1919. He soon was appointed division superintendent at Cisco, and came to the Houston office as general superintendent in 1924. He was elected to the board of directors of the pipe line company in 1925, and was made vice president in 1928.

D. B. Harris, the new treasurer, began with the company in 1919 at Ranger in the labor gang. Through successive years in various fields he advanced to division superintendent first of the Arkansas-Louisiana division and then successively Gulf Coast, East Texas and Southwest Texas divisions.

In June, 1934, he was appointed manager of industrial relations for the Humble companies and has held that position since, as well as the chairmanship of the company's annuities and thrift plan.

DR. SAMUEL T. YUSTER, State College, Pennsylvania, has been appointed as the Pennsylvania member of the research and coordinating committee of the Interstate Oil Compact commission. Dr. Yuster has been in the department of petroleum and natural gas engineering at Pennsylvania State College since 1934. At present he is associate professor of petroleum and natural gas engineering and in charge of petroleum production research in the mineral industries experiment station. This research work is sponsored by the Bradford district research group and the Pennsylvania Grade Crude Oil Association; and studies are being conducted towards improving secondary recovery by water flooding and air and gas drive.

W. H. ALLEN, sales engineer, Fafnir Bearing Company discussed "Manufacturing Practices in Anti-Friction Bearings" before Engineers Club of Tulsa, recently. B. O. Groenewold, Bethlehem Supply Company, acted as meeting chairman.

A. E. McKAY, West Texas geophysicist for the Atlantic Refining Company with headquarters at Midland, and a first lieutenant in the field artillery reserve corps, has been order to duty at Lowry field, Denver. L. B. Park, formerly of Houston, has succeeded McKay at Midland.

FRED BRASTED, geologist for Phillips Petroleum Company, Midland, Texas, has qualified for entry into the United States Army Officers' training camp, and will report to Fort Bliss, Texas, late this week.

GEORGE D. MORGAN, president of Cardinal Oil Company, which has extensive shallow holdings to be developed in Pecos County, Texas, has organized Cardinal Drilling Company with headquarters at San Angelo. Morgan is president of the new concern. Other officers are Claud E. Aikman and J. V. Schilling.

AL STRATTON, Timken-Detroit Axle Company, reecntly discussed service and maintenance before Petroleum Motor Transport Association at Tulsa.

CONGRESSMAN WESLEY E. DISNEY, Oklahoma, addressed Petroleum Accountants Society of Oklahoma at Tulsa on the subject, "Our National Fiscal Situation."

J. H. CROMWELL, H. W. Lewis and I. W. Murfin, with New York City interests, have organized Three Way Oil Company in Kansas.

E. V. McCOLLUM of Mott-Smith Corporation discussed "The Gravity Expression of the Hatchetigbee Anticline and the Jackson Fault Area of Alabama" before the Houston Geological Society April 30.

OSHER GOLDSMITH, consulting petroleum engineer of Tyler, Texas, has been appointed senior business specialist in the price division of the Dallas regional office of the Office of Price Administration. OPA has established a petroleum section, and the territory of the Dallas office covers Texas, Louisiana, Arkansas, Oklahoma, Missouri and Kansas.

Inquiries of the petroleum industry pertaining to petroleum and its products under the Price Control Act, in this territory, should be directed to the Dallas regional office in the Tower Petroleum Building.

Goldsmith is a registered professional engineer, and a graduate of the Missouri School of Mines, class of 1920. He has been associated with both independent and major companies, as well as having been an independent producer himself.

D. R. (Dave) HARRIS has been appointed Mid-Continent general salesman of Reed Roller Bit Company, with headquarters in Tulsa. He was formerly located at the company's plant in Oklahoma City. Harris replaces Fred L. Tyler who has been transferred to the Los Angeles branch as division manager.

NOW

More Than Ever

It is imperative to conserve what you have—to avoid expense and delay of repairs and replacement.

Sand-Banum automatically and safely *removes* old and *prevents* new boiler scale and corrosion — does it while the boiler operates, with no work stoppage.

"The Entirely Different Boiler and Engine Treatment"

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CORE DRILLING . . .
SHOT HOLE DRILLING

DEPTHS TO 3000 FEET . . . .
ALSO ELECTRIC LOGGING AND WIRE LINE CORING SERVICE

ROUSE EXPLORATION DRILLING COMPANY

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HOUSTON

MORE READERS
MORE MEN IN THE DRILLING-PRODUCING INDUSTRY SUBSCRIBE TO THE OIL WEEKLY
THAN TO ANY OTHER OIL PAPER.
BE SURE TO RENEW YOUR SUBSCRIPTION PROMPTLY

TED A. CHAPMAN, Wichita, Kansas, president of the Southern Supply Company, recently was elected president of Drillers Supply Company of Wichita, in which he has acquired a substantial interest. Chapman has been in business in Wichita for the past 28 years, of which the last 5 have covered service to the petroleum industry. He succeeds J. R. Ballard in the presidency, although Ballard remains as vice-president. The change will not affect the organization's personnel. T. A. Howell is general manager and H. S. Forbes remains as sales manager and purchasing agent.

Two branch stores are directed from Wichita with M. W. Hartman in charge of Eureka, Kansas; and Harry Barr, in charge of El Dorado, all operating under the direction of Howell.

Drillers Supply Company serves the industrial and oil-field markets. Southern Supply Company serves the refinery and industrial sales fields from 401 North Water Street in Wichita. Fred Chapman is vice president and general manager of the Southern organization.

C. R. FORBES of Los Angeles production manager of Baroid Sales Division of National Lead Company, will address the Gulf Coast section of the American Institute of Mining and Metallurgical Engineers May 5 at Houston on "The Mining and Milling of Non-Metallics."

A. D. ROSE, sales manager of James P. Marsh Corporation, Chicago, has been appointed assistant general manager, and the position he has vacated will be filled by James Emmett, Jr., formerly assistant sales manager.

FRANK L. PROSSER has been appointed sales manager for the D+B division of Emsco Derrick and Equipment Company, in the Mid-Continent territory with headquarters in Dallas. Prosser is a native of Oklahoma, having received his high school and college education in Guthrie. He spent six years with the Santa Fe railroad before going with Shell Oil Company in 1923. He gained a wide experience in the production and material departments of Shell until 1936 when he became associated with Emsco. He has worked in Kansas, Oklahoma, and Texas, and comes to his new duties from San Antonio where he has been covering South and West Texas for D+B since 1936.

N. M. HUTCHINSON, 49, production research engineer, Cities Service Oil Company, died recently at Bartlesville, Oklahoma. Hutchinson has been active in API activities, has headed production committees for the Institute, and has been an advocate of sound engineering in secondary recovery application. At the time of his death, he was a member of OPC's advisory committee on secondary recovery.

ROBERT F. VOGT, chief consulting engineer of Allis-Chalmers Manufacturing Company since 1937 and an employe of the company for 36 years, died April 17 after a week's illness.

Approved FOR USE IN HAZARDOUS LOCATIONS

JUSTRITE
Twin-Bulb ELECTRIC LANTERN

Approved by Underwriters' Lab., Inc. for Class 1, Group D locations — by U. S. Bureau of Mines for safety in Methane gas and air mixtures—by Bureau of Marine Inspection and Navigation for use in pump rooms of tank vessels.

Twin-bulbs reduce danger of lamp failure—just flip the switch and second bulb lights instantly. "Throw-out" type bulb sockets.

At all Supply Stores

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Smooth Power WITH BRONZOID

BRONZOID
Lengthens Life of Equipment

Only BRONZOID contains pre-treated lead which arrests crystalline growth in the resultant bronze.
The high compressive strength and low Brinell hardness of BRONZOID combine the best features of bronze and babbitt metal. That's why it is called, "The Ultimate in Bearing Bronze."

OIL CITY BRASS WORKS
FOUNDERS MANUFACTURERS MACHINISTS
Beaumont, Texas, U.S.A.

See the new feature . . . .

TRADING POST SECTION

on page 106 of this issue

Because of the scarcity of certain types of new equipment and the fact that some concerns may have a surplus of certain items and a serious shortage of others, this **"Used Equipment Forum"** has been inaugurated as a service and aid to operators in locating needed used equipment or in disposing of surpluses that may be needed by others.

Squeaks from the Bull Wheel

Draft Test

"Does this mean I'm in the Army? Me—with my bad eyes?"

"You're in unless they flunk you at the camp."

"How bad must my vision be before they flunk me?"

"The way they're taking 'em now, if you can find the camp, you're in!"

All Needed

The Senator claimed he was obliged to belong to three clubs.

"I joined a religious club for the sake of my soul, and the athletic club for the good of my body."

"And the third club?"

"The Democratic Club; that's to keep soul and body together."

Army Stuff

"What's the difference between a time and a percussion shell?"

"That's what I say. Who cares?"

Partiality

Why do you say there's favoritism in your family?

Well, when I bite my nails I get into trouble; but when baby puts his foot in his mouth, it's cute.

Eternal Feminine

Customer—Come, John, we're ready to go.

Saleslady—Pardon, madam, here's the hat you bought; that's the box you're wearing.

Sophisticate

"Why don't you wear that lovely lingerie you got for Christmas?"

"Oh, I'm saving that for a windy day."

Something Else Again

"How far to the next town?"

"About three miles in a bee line."

"Well, how far is it if the bee has to walk and roll a flat tire along?"

Natural Sequence

And what are you going to do when you grow up to be a great big girl?

Reduce.

Not That Low

A stranded English actor went into a sordid eating house in New York for a cheap meal and was horrified to recognize the waiter as a colleague who had played with him in London.

"Great Scott!" he gasped. "You a waiter in this place?"

"Yes, but I don't eat here," replied the other with dignity.

Defects

I know, we have just the house you want—without a single flaw.

But what will we walk on?

Trail Blazer

He was going home and it was dark. His road was a lonely one and he was hurrying along as fast as he could when he realized that a man behind was following him purposely. The faster he went the faster the man followed until they came to a field.

"Now," he said to himself, "I'll find out if he's after me," and he entered the field. The man followed him. He circled around and his pursuer dodged after him. He crawled under a hedge. Still the man was after him. At last he turned and faced the fellow. "What do you want? What are you following me for?"

"Well, sir, it's like this. I'm going to Mr. Brown's house and the station agent told me to follow you because Mr. Brown lived next door. Tell me something. Do you always go home like this?"

Swedish

"Have you a monkey-wrench here?"

"Naw, my brother bane got a cattle rench over there; my mousin got a sheep rench down there; but too cold for a monkey rench here."

SAFETY-PULL HOIST

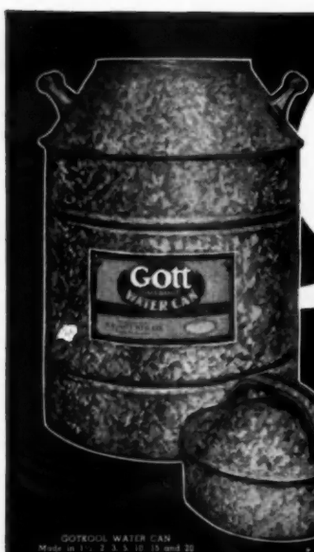
Coffing Model FG 1½ ton ratchet hoist weighing only 25 lbs. skidding fifty ton diesel engine base into position.

Especially adapted for skidding heavy machinery into tight places where not much head room is allowed. For loading trucks, erecting rigs or wherever a lift or a pull is needed.

CAPACITIES: ¾ to 15 tons. Weighing from 14 to 150 lbs.

COFFING HOIST COMPANY
800 WALTER STREET — DANVILLE, ILLINOIS

RATCHET LEVER HOISTS • SPUR GEARED HOISTS • TROLLEYS
ELECTRIC HOISTS • LOAD BINDERS • DIFFERENTIALS



GOTKOOL WATER CAN
Made in 1, 2, 3, 5, 8, 10, 15 and 20 gallon sizes. Furnished with push-button faucet at slight additional cost.

Gotkool
WATER CANS & COOLERS

GOTT Water Cans are the practical way to keep drinking water cool for long periods, protected from impurities and always handy to the job. Snug fitting large removable top, strongly built to withstand rough usage. GOTT Water Coolers have extra large covers and a handy non-leaking push button faucet. Your Supply Store has them, get one today! . . . . . .

GOTKOOL
WATER COOLER
Made in 2, 3, 5, 8, 10, 15 and 20 gallon sizes.

H. P. GOTT MFG. CO.
WINFIELD, KANSAS

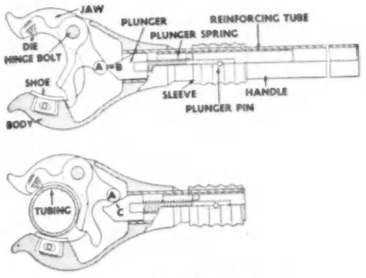
KEEP PURE DRINKING WATER ALWAYS HANDY

Notes for the Equipment Buyer and User

Tubing Tong

BYRON JACKSON COMPANY

Byron Jackson Company, Los Angeles, Houston, New York, has announced a new tubing tong. Due to utilizing a different principle, the BJ Type T tubing tong can be applied with a "stab on" motion, and will not thereafter droop, slide down or fall off when it is passed around or ratcheted. It also can be applied by holding the plunger in a retracted position until the tong is closed around the pipe, then allowing the plunger to move forward, thus eliminating any danger of causing a spark from the metal-to-metal contact of the die and pipe.



BJ Type T Tubing Tong

The upper illustration shows the hinged jaw in the position it takes when the tong is removed from the tubing. When the plunger is retracted into the handle the rounded portion A of the jaw is held on the flat end of the plunger (B) by the force exerted by the compressed plunger spring. When the tong is "stabbed on" the tubing strikes against the inner face of the jaw with sufficient force to move the rounded portion A off the flat (B) at the end of the plunger. The plunger spring is then released and the plunger moves forward until the rounded portion A is in position on the wedging face of the plunger, as shown in lower view.

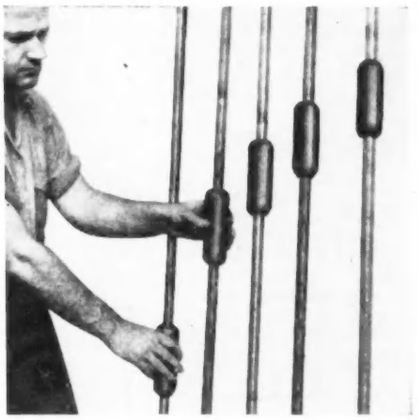
The strength of the plunger spring is sufficient to hold the tong in position safe from sliding down or falling off the tubing, but the tong is easily ratcheted.

To remove tong from tubing the plunger spring is pulled back to retract the plunger, and the slidably mounted shoe assists in releasing without sticking. The rounded portion A then takes the position shown in the upper view, holding the tong open and ready for use. The tonk also is successfully used as a lay tong for pipe line or refinery service.

Sucker-Rod Protectors

PATTERSON-BALLAGH CORPORATION

Patterson-Ballagh Corporation has announced a new type of slidable rod protector molded from a special wear-resistant material. The protector is molded directly onto the polished rod of a standard pony rod. They have just enough clearance so that the rod will slide inside of the protector instead of against the rough tubing. The rod is smooth and the protector is a plastic bearing surface. Using oil as the medium of lubrication, the unit operates as an underground polish rod.



Patterson-Ballagh Sucker-Rod Protectors

The manufacturer claims that the application reduces pumping load, and field tests indicate that the protector solves the worn rod-box and tubing problem. The protectors fit pony rods, sizes 5/8- to 1-inch.

Pumps

Ingersoll-Rand Company, 11 Broadway, New York City, has issued a 12-page bulletin describing the features of class GT two-stage centrifugal pumps. This bulletin contains 28 photographs and cross-sectional views, extensive performance tables, and a comprehensive tabulation showing friction of water in various sizes of pipe. In addition, the text matter describes many structural details of the pumps.

New General Electric Movie "The Inside of Arc Welding" Available

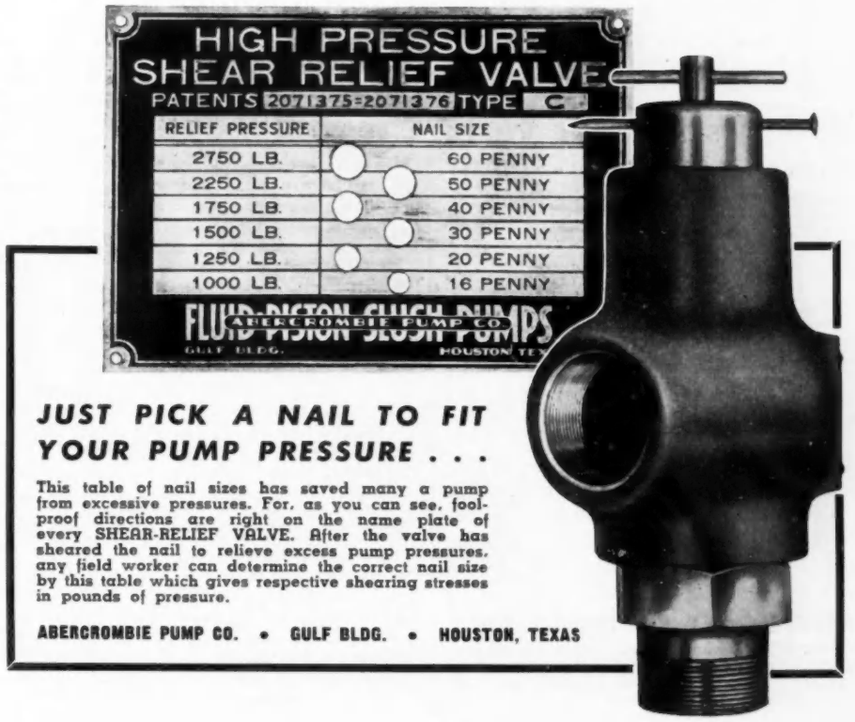
Expected to play a big part in speeding up the training of thousands of metal arc welding operators needed for the fabrication of ships, tanks, aircraft, and other war equipment is the new six-part, all-color General Electric sound movie "The Inside of Arc Welding." The first part of the movie, complete in itself, is now available to public, private, and industrial welding schools, and other groups, while the other five parts will be ready early in June.

Because "The Inside of Arc Welding" handles the subject of good arc welding technique from a strictly educational viewpoint, it should be especially helpful to welding trainees. One prominent authority has estimated that its use should help cut the training time of new welders 20 percent in addition to giving trainees a better understanding of the principles of arc welding.

From the films, with their closeup shots of the behavior of the arc and the molten weld metal, veteran welding operators can get a clear, concise explanation of welding phenomena never before available for study.

Virtually every modern device of the motion picture industry was employed by the Raphael G. Wolff Studios, Hollywood, in producing "The Inside of Arc Welding." Vivid charts, animation, demonstrations by expert operators, closeups of the arc in action, as well as cross sections of good and bad welds are combined to bring to even the largest classes the benefit of individual instruction—instruction that can be repeated at will as often as necessary.

Each of the six parts of "The Inside



JUST PICK A NAIL TO FIT YOUR PUMP PRESSURE . . .

This table of nail sizes has saved many a pump from excessive pressures. For, as you can see, foolproof directions are right on the name plate of every SHEAR-RELIEF VALVE. After the valve has sheared the nail to relieve excess pump pressures, any field worker can determine the correct nail size by this table which gives respective shearing stresses in pounds of pressure.

ABERCROMBIE PUMP CO. • GULF BLDG. • HOUSTON, TEXAS

UNIBOLT
"BIG INCH"
COUPLINGS

Are more widely used on pump suctions than any other connection. There must be a reason!

UNIBOLT
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THE ONE BOLT COUPLING

THORNHILL-CRAVER COMPANY
HOUSTON

T.J. BETTES CO.

HEADQUARTERS FOR
LOANS
ON
PRODUCING OIL PROPERTIES

LOW RATES • FAST SERVICE
SATISFACTORY TERMS

• If you are interested in borrowing money on producing oil properties — or refinancing existing loans—drop in or write us. We have unlimited funds available!

T. J. BETTES COMPANY
616 FANNIN STREET • CAPITOL 9161
HOUSTON, TEXAS

BOWEN SOLID LINE WIPER
SAFETY - ECONOMY - UTILITY
DEPENDABILITY
CONVENIENCE

This Line Wiper, as illustrated, is available with or without the remotely controlled Packing Nut Tightener. It is the most versatile line wiping and oil saving device of its kind.

The size with 3" bottom connection will allow tools 1¾" OD to pass through it.

Patented

Descriptive literature with complete instructions is packed with every tool.

BOWEN CO. OF TEXAS, INC.
Office: 2429 Crockett Street. Phone Capitol-6751
P. O. BOX 1025 HOUSTON, TEXAS
Phones: Odessa, Tex., 660—Midland, Tex., 1419
Through Supply Stores Anywhere in U. S. A.

of Arc Welding" is complete in itself and covers in full detail one particular phase of arc welding. Each is 400 feet long, 10 minutes in duration, and can be used on sound-equipped 16-mm projectors only.

Clearly shown, explained, and emphasized throughout the six parts are the four principal factors of good welding: (1) current setting, (2) angle of electrode, (3) arc length, and (4) speed of travel, with their effect on control of the molten pool.

Pumping Units

Oil Well Supply Company, Dallas, Texas, has issued two new bulletins: bulletin U6-442—"Oilwell" TC-23H and TC-33H twin-crank pumping units; bulletin U7-442—"Oilwell" TC-12H and TC-17C twin crank pumping units. These bulletins complete a set of descriptive literature of a new standard style covering the entire line of modern "Oilwell" pumping units.

Schlumberger Occupies New Quarters at Oklahoma City

Schlumberger Well Surveying Corporation has moved into its new office-laboratory serving central points in Oklahoma at 1701 Northwest 16th Street, Oklahoma City.

Rubber Sponge

The B. F. Goodrich Company, Akron, Ohio, has issued a four-page catalog on its recently announced synthetic rubber sponge, made from its Ameripol synthetic rubber, developed in its own laboratories.

The catalog section points out that the new product has all the essential characteristics of natural sponge rubber and in many respects is far superior. Properties are described and dimensions given for stock sizes of available slabs, tubing, cord and molded shapes.

Ameripol sponge, the company advises, is controlled by the same governmental restrictions that apply to natural rubber.

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Main Office and Factory:
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6023 Navigation Blvd., Box 3048, Houston, Texas
Export Sales Office:
19 Rector Street, New York, N. Y.

General Heading: BAKER DUPLEX CEMENT GUIDING, FLOATING, CEMENTING EQUIPMENT

Unit No. A-10

Subject: Practical Suggestions for Conserving Time, Money and Materials When Landing and/or Cementing Liners

Index: 250.1
Date: May 11, 1942
Page: 1 of 1 p.

Baker realizes that oil industry supervision and personnel are today charged with a heavy responsibility . . . specifically, to conserve time and vital materials, ***plus*** securing ***first time*** results at a lower cost.

Baker also realizes that to do this you now need, more than ever before, plain facts and practical suggestions as to the equipment you may require or use to achieve these objectives.

Tools and devices bearing the Baker trade-mark have played an important part in the development of the present-day oil industry, and ***can*** and ***will*** play a still more important part in helping with the immediate problems at hand.

(Future Baker ads, like this one, may not be "fancy," but they will be full of ***practical*** suggestions as to how Baker equipment can be used advantageously to conserve time, money and materials in your cementing, well repair and well completion work.)

PROBLEM: To economically run, wash-in, wash perforations and/or cement liners.

EQUIPMENT USED: Baker Duplex Cement Wash-Down Whirler Float Shoe, Fig. 3 (or a Baker Duplex Cement Float Shoe); a Baker Circulation Joint, and a Baker Circulation Joint Bottom Sub, Figs. 1 and 2.

METHOD: The Duplex Shoe is made up on bottom of liner. Running-in string is connected to the Duplex Shoe by means of a Circulation Joint and Sub. (This Sub has square, left-hand threads which mate with similar threads in the Duplex Shoe, see Figs. 2 and 3.) The liner is then run to desired point suspended by the running-in string. If desirable or necessary, liner can also be washed in, fluid being pumped down the running-in string and out around the Duplex Shoe. When liner setting point is reached, further washing or circulating can be performed.

If liner is to be cemented, slurry is pumped down the running-in string and out through the Duplex Shoe in the same manner as for circulating or washing. Upon completion of the cement job, running-in string is turned to the right, unscrewing the Circulation Joint Bottom Sub from the Shoe. Running-in string, together with Circulation Joint and Sub, is then pulled from the hole.

For cementing liners off bottom, a fluid by-pass can be obtained by using a ***Circulating Type*** Bottom Sub with sleeve-covered ports. (Normal by-pass through the Circulation Joint is not possible, as the Joint, when liner is off bottom, cannot be telescoped to permit its opening.) In such applications, following the cementing job, a Tripping Ball is dropped, which seats in the Circulating Type Sub. Pressure is then applied which forces down the sleeve and uncovers the fluid ports, through which circulation can be established.

APPLICATIONS: In addition to the general applications of the Baker Duplex Equipment, there are many standardized procedures followed in certain areas. In one district where packers or testing tools are not adequate, liners are cemented off bottom to test wells before running the oil string. With the liner scab in place, the zone above can be shot, acidized and tested; the Duplex Shoe is then drilled out and the zone below tested with the packer set in the liner. If the well is a producer the casing is run through the liner and cemented in the conventional manner.

In another district, the liner is cemented off bottom to exclude gas or water where the casing has been set too high. Here also, the liner is cemented to blank off an old producing zone for salt water or gas injection in the bottom or top of the zone respectively. In these cases, no perforated liner is wanted in the completed zone to hinder cleaning out production or interfere with salt water or gas injection. The open hole is frequently shot, underreamed or acidized.

ADVANTAGES OF LANDING AND/OR CEMENTING LINERS WITH BAKER DUPLEX EQUIPMENT

Baker Duplex Equipment Is Economical
(Save $100.00 to $300.00 per job)
Duplex Wash-Down Whirler Shoes Will Wash Liners to Bottom
Blank Liners May Be Cemented— Even When Pressure Is Necessary
Slotted or Screen Pipe May Be Washed— From the Outside In
Liners May Be Landed On or Off Bottom
No Cement Is Left in Liner
The Liner Stays Where It Is Placed
The Liner May Be Batch-Cemented When Using a Circulation Joint
With Proper Lap, there will be No Leaks Between Casing and Liner

(FOR MORE COMPLETE DETAILS ON BAKER DUPLEX EQUIPMENT SEE PAGES 242-246 OF THE 1942 BAKER OR COMPOSITE CATALOG)

Service Note

Competent Baker men will service, make suggestions, and otherwise assist in securing best possible results.

Fig. 1

Fig. 1 (Left)
Product No. 430-L
Baker Model "L" Circulation Joint

Fig. 2

Fig. 2 (Left)
Product No. 431
Baker Circulation Joint Bottom Sub

Fig. 3 (Right)
Product No. 360
Baker Duplex Cement Wash-Down Whirler Float Shoe

Fig. 3

325′ of 5½″ liner set and cemented by means of Baker Duplex Cement Wash-Down Whirler Float Shoe to blank off open hole through heaving shale in order to permit further drilling. Liner was flush joint to pass through 6″ hole with caving walls. Liner worked through tight spots to reach within 25′ of bottom; then worked and circulated another 16′ where it was cemented with pressure of 1000 p.s.i.

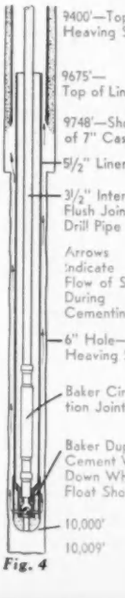


Fig. 4

200′ of liner set and cemented off bottom with a Baker Duplex Cement Wash-Down Whirler Float Shoe to provide open hole production from two zones which it separated. String was equipped with a Circulating Type Bottom Sub which permitted circulation for 7 hours before releasing the cementing string from the Duplex Shoe. Cemented with a pressure of 200 p.s.i.

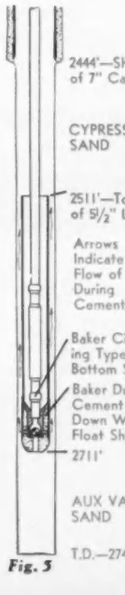


Fig. 5

261′ of 5½″ liner run in a Baker Duplex Cement Wash-Down Whirler Float Shoe to shut off a leak in 7″ casing caused by a split in the pipe. Liner was then cemented with 25 sacks of cement which was pumped through the Duplex Shoe. In such cases where the shoe is on bottom, circulation after cementing is provided by the Circulation Joint alone.

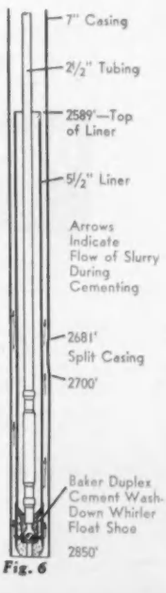


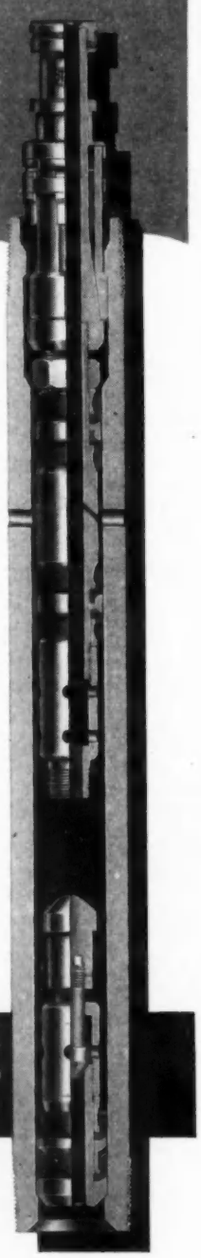
Fig. 6

Don't Guess

BOTTOM HOLE
PRESSURES
IN 2 ZONE WELLS

an OTIS TYPE G (Side Door) CHOKE

MAKES POSSIBLE ACCURATE PRESSURE GAUGING OF EITHER ZONE . . .



ACCURATE knowledge of *Bottom Hole Pressure* is *necessary* for efficient production.

The OTIS Type G Choke provides a means to take Bottom Hole Pressures of either producing zone INDEPENDENTLY of the other.

The Type G landing nipple, which is made up in the tubing string, has four ½-inch holes through its walls, permitting flow from the casing annulus or upper zone into the tubing. The Removable Choke seats and locks in the landing nipple and provides complete control of the entrance of fluid into the tubing string from either or both pays.

By using a blank cup mandrel, the side ports of the landing nipple can be blanked off, permitting flow into the tubing from the lower pay only. The Bottom Hole Pressure can then be accurately taken of the lower zone.

To reverse these conditions, a perforated cup mandrel with its lower end plugged is used. This combination shuts off the lower zone, and permits the pressure to be taken from the upper pay only.

The running and pulling of the Type G Choke can be done under pressure on the same steel measuring line used to run the bottom hole pressure instruments.

The Type G Choke is a versatile tool and there are many ways it can be efficiently used in dual formations. Consult your nearest Otis representative or write direct for complete information and details.

OTIS PRESSURE CONTROL, INC.
DALLAS, TEXAS

PRESSURE CONTROL · OTIS · SERVICE · EQUIPMENT

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LOOKING AHEAD

. . . with the Editor

Production and Disposal of Salt Water in the East Texas Field

Currently the production of salt water in the East Texas field is slightly more than the oil production. This not only creates a most critical disposal problem, but also an oil production problem. It means that the reservoir pressure is declining twice as fast as it would if only oil were produced and the water kept in the ground; it also means that the rate of oil production could be doubled with the same drop in bottom-hole pressure if no water were produced or if all water produced were returned to the sand.

The most practical and acceptable way of disposing of salt water in the East Texas field has been by the return of the salt water to the Woodbine sand. This method of getting rid of the salt water is not only very satisfactory for disposal, but also is of much greater importance as a means by which the pressure in the reservoir can be maintained so as to substantially prolong the natural flowing life of the field and materially increase the ultimate recovery of oil therefrom.

This important problem is to be the subject discussed at the East Texas Chapter meeting of the American Petroleum Institute on May 12. THE OIL WEEKLY hopes to be able to publish this paper in a subsequent issue.

Selection, Installation and Care of Electric Motors

Present conditions make it necessary that all equipment in continuous service be given the best of care, and electric motors are no exception. It is just as imperative that they are babied by intensified maintenance programs in non-war industries as in war industries, for 24-hour-a-day, 7-day-a-week war production schedules cannot be interrupted to manufacture motors for normal industrial use.

A well-illustrated, authoritative article that will discuss a general maintenance program for electric motors will be published shortly.

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